

BCNR



**ROBINSON REFINERY
MODERNIZATION PROJECT**

**MARATHON OIL COMPANY
ROBINSON, ILLINOIS**

**PROJECT
HISTORICAL REPORT**

BECHTEL JOB NO. 14053

BECHTEL PETROLEUM INC.



1980 - 1982

1. PROJECT STATISTICS

1.0 PROJECT SUMMARY



PROJECT SUMMARY

JOB NO. 14053BECHTEL SPONSORING DIVISION R & CJOB TITLE RRMPSUBASSIGNMENTS R & EJOB LOCATION ROBINSON, ILLINOISSPONSORING OFFICE HOUSTONCLIENT MARATHON OIL COMPANYPARTICIPATING OFFICES SAN FRANCISCO,CLIENT HOME OFFICE LIMA, OHIOLOUISVILLE, EDMONTON, ANN ARBOR, GAITHERSBURGSCOPE OF WORK EPCJOINT VENTURE (Describe) -CONTRACT CPBCAMP SIZE -

LIST FACILITIES CONSTRUCTED:

PLANT	DESCRIPTION	CAPACITY	ENGINEERED BY	CONSTRUCTED BY
9	AMINE TREATING		BECHTEL	BECHTEL
16	HYDROTREATER/PLATFORMER	30,000 BPSD	BECHTEL	BECHTEL
23	SATURATES GAS	20 mm SCFD	BECHTEL	BECHTEL
28	LPG TREATING		BECHTEL	BECHTEL
29	REFORMER FEED SPLITTER	11200 BPSD	BECHTEL	BECHTEL
20,21,30-99	OTHER OFFPLOTS		BECHTEL	BECHTEL
50	TDC CONSTRUCTION		BECHTEL	BECHTEL
60	TDC CONVERSION		BECHTEL	BECHTEL

FINAL JOB COSTS	\$ MM	SCHEDULE	DATE	DURATION
MAJOR EQUIPMENT	20.3	AWARD	03/80	
OTHER DIRECTS	58.7	START DESIGN ENGR'G.	03/80	
DISTRIBUTABLES	19.6	ENGR'G. 90%	09/81	18.5
HOME OFFICE	14.2	START CONSTRUCTION	10/80	
TOTAL BECHTEL	112.8	START FOUNDATIONS	12/80	
SETTLEMENTS	(.3)	START A/G PIPING	06/81	
TOTAL	112.5	FINAL MECH. COMPL.	04/82	82

MANHOURS	M	MANPOWER (PEAK)	
BECHTEL DIRECT MANUAL	1383.1	BECHTEL MANUAL	1241
BECHTEL DISTRIB. MANUAL	293.3	SUBCONTRACT	266
SUBCONTRACT	258.3	NON-MANUAL	121
NON-MANUAL	350.6	HOME OFFICE	169
HOME OFFICE	499.0		
FINAL PRODUCTIVITY (DIRECTS)	1.63		

RATIO ANALYSIS

	<u>Normal Historical Range</u>		
	<u>Your Project</u>	<u>Domestic Projects</u>	<u>Remote/Camp Projects</u>
1. Non-Manual Manhours as a % of Manual Manhours	20.9%	15-20%	22%-28%
2. Distributable Costs as a % of Direct Labor Costs	72.9%	68%-85%	N/A
3. Home Office Costs as a % of Total Field Costs	11.7%	8%-12%	5%-12%
4. Distributable Manual Manhours as a % of Direct Manual Manhours	21.2%	18%-23%	N/A
5. Engineering Tech Manhours Per Piece of Major Equipment	1,180	950-1150	1000-1200
6. Peak Construction % Complete Per Month	8%	7%-9%	6%-8%

Comments: _____

1. The non-manual manhours for the project (350,600) includes 53,500 manhours of design engineering work performed at the jobsite for the TDC-2000 conversion. If these hours are excluded, item 1 above is 17.7%.
2. One factor that caused item 5 above to be high is the large revamp content in the project scope.

1.1 SUMMARY COST DATA



JOB NO. 14053
JOB DESCRIPTION ROBINSON REFINERY MODERNIZATION
CLIENT MARATHON OIL COMPANY
LOCATION ROBINSON, ILLINOIS

PROJECT COST SUMMARY BY CATEGORY
Dollars & Manhours In Thousands

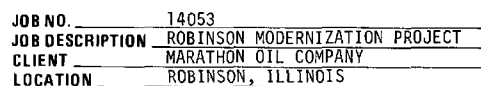
PAGE 1
CONST. DATES 10/80 TO 04/82
PREPARED BY

	FINAL BUDGET				
	MANHOURS		BECHTEL COSTS		TOTAL COSTS
	Bechtel	S/C	Material	Labor	
COLUMNS & VESSELS	13.5	6.6	4958.1	298.0	494.7
TANKS	0.3	-	98.8	11.5	110.3
EXCHANGERS	11.1	3.0	4969.2	230.3	389.1
FIRE HEATERS	30.6	1.6	4972.7	675.8	42.7
PUMPS	13.1	-	1417.5	261.8	1679.3
COMPRESSORS	21.3	2.0	4088.5	418.7	116.0
SPECIAL EQUIPMENT	4.9	-	1013.6	77.3	1090.9
SUBTOTAL MAJOR EQUIPMENT	94.8	13.2	21518.4	1973.4	1042.5
INSTRUMENTS	152.6	-	9383.2	3206.1	-
PIPING	288.9	0.6	6194.9	6279.9	62.8
STRUCTURAL STEEL	53.4	-	1680.9	1111.5	-
INSULATION	16.6	77.1	19.6	355.4	3196.4
ELECTRICAL	288.7	0.8	4269.8	5940.4	42.4
CONCRETE WORK	97.9	10.0	1010.6	1615.3	556.8
BUILDINGS	3.6	6.4	74.6	74.2	557.7
SITE WORK	60.6	9.3	229.0	1019.7	565.3
PAINTING	-	9.1	-	-	558.5
SUBTOTAL OTHER DIRECTS	962.3	113.3	22862.6	19602.5	5539.9
SCAFFOLDING	43.4	-	-	787.6	-
TOTAL DIRECT FIELD COSTS	1100.5	126.5	44381.0	22363.5	6582.4
TEMPORARY CONSTRUCTION	57.2	14.4	631.2	1209.3	689.1
MISC. CONSTRUCTION SERVICES	168.2	1.2	244.2	3185.8	10.3
CONSTRN. EQUIP., TOOLS, SUPPLIES	-	-	4281.6	11.0	-
FIELD OFFICE COSTS (NONMANUAL MHRS)	274.9	-	1416.3	6093.3	-
OTHER OPERATIONS	24.9	-	-	-	-
REMOTE AND OFFSHORE ASSOC. COSTS	-	-	-	-	-
TOTAL DISTRIBUTABLE FIELD COSTS	525.2	15.6	6573.3	10499.4	699.4
TOTAL FIELD COSTS (Reim.)	1625.7	142.1	50954.3	32862.9	7281.8
DIVISION TECHNICAL SERVICES	22.0	-	82.9	405.3	-
ENGINEERING	273.6	-	631.5	5143.3	-
PROCUREMENT	40.6	-	127.9	695.2	-
OTHER DIVISIONAL	13.0	-	98.5	314.8	-
SERVICE DEPARTMENTS	7.5	-	24.3	129.2	-
TOTAL H.O. (Reim.)	356.7	-	965.1	6687.8	-
BURDEN	-	-	1908.7	-	-
CONTINGENCY	-	-	7641.4	-	-
NEGOTIATED SETTLEMENTS	-	-	-	-	-
TOTAL PROJECT COSTS (Reim.)	1982.4	142.1	61469.5	39550.7	7281.8
(Excludes Gross Margin)	-	-	-	-	-

ACTUAL COSTS					
MANHOURS		BECHTEL COSTS		S/C COSTS	TOTAL COSTS
Bechtel	S/C	Material	Labor		
24.2	7.1	4873.0	515.6	606.8	5995.4
1	-	36.5	2.0	0.3	38.8
13.4	2.8	4430.1	281.4	224.6	4936.1
82.3	12.2	5028.6	1760.3	433.6	7222.5
8.6	1.3	1192.2	162.7	38.0	1392.9
15.3	1.3	4066.1	287.9	38.8	4392.8
1.6	0.3	703.5	31.7	8.8	744.0
145.5	25.0	20330.0	3041.6	1350.9	24722.5
65.7	4.5	7400.3	1368.4	131.4	8900.1
416.5	100.5	7843.4	8731.6	2999.3	19574.3
60.7	1.9	1677.5	1181.6	83.4	2942.5
2.1	81.8	5.7	48.3	2811.6	2865.6
269.1	1.1	3783.0	5241.0	45.9	9069.9
223.1	1.4	1795.9	3861.6	74.9	5732.4
7.2	7.9	57.1	122.2	574.1	753.4
66.5	12.5	431.8	1084.9	682.6	2199.3
-	3.4	1.3	3	111.9	113.5
1110.9	215.0	22996.0	21639.9	7515.1	52151.0
126.7	-	-	2155.9	-	2155.9
1383.1	240.0	43326.0	26837.4	8866.0	79029.4
60.6	16.2	788.0	1071.9	612.8	2472.7
206.2	2.0	153.9	3647.0	38.0	3838.9
-	-	4974.8	-	1.0	4975.8
350.6	1	1570.4	6125.0	12.2	7707.6
26.5	-	106.9	468.7	-	575.6
643.9	18.3	7594.0	11312.6	664.0	19570.6
2027.0	258.3	50920.0	38150.0	9530.0	98600.0
26.7	-	113.5	489.5	-	603.0
383.8	-	1596.0	7110.8	-	8706.8
48.5	-	200.4	802.7	-	1003.1
22.1	-	238.3	585.5	-	823.8
17.9	-	84.4	265.9	-	350.3
499.0	-	2232.6	9254.4	-	11487.0
-	-	2763.0	-	-	2763.0
-	-	(310.0)	-	-	(310.0)
2526.0	258.3	55605.6	47404.4	9530.0	112540.0

PROJECT COST SUMMARY BY CATEGORY

PHR 1.1-1



PAGE 2
CONST. DATES 10/80 TO 04/82
PREPARED BY _____

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PHR 1.1-2

PAGE 3

JOB NO. 14053
 JOB DESCRIPTION RRMP
 CLIENT MARATHON OIL COMPANY
 LOCATION ROBINSON, ILLINOIS

QUANTITY & UNIT
 RATE SUMMARY
 TOTAL PROJECT

CONST. DATES 10/80 TO 4/82
 PREPARED BY C. JACKSON/D. LEE

UNIT RATES AND RATIO ANALYSIS

	COLUMN A		COLUMN B	A ÷ B
HOME OFFICE				
1. ENGINEERING TECH MHRS	369,600	NO. PIECES OF EQUIPMENT	309	1180
2. ISOMETRIC DRAWINGS	1841	NO. PIECES OF EQUIPMENT	309	5.96
3. ENGINEERING TECH MHRS	369,600	TOTAL NO. OF DRAWINGS	2050	177.0
4. NO. OF H.O. ISSUED P.O.'S	273	NO. PIECES OF EQUIPMENT	309	1.80
5. PROCUREMENT MANHOURS	18,500	NO. H.O. ISSUED P.O.'S	273	177.1
6. TOTAL H.O. COSTS	11987	TOTAL FIELD COSTS	98600	.12
7. FIELD NON-MANUAL MANHOURS	350,600	TOTAL H.O. MHRS	499,000	.70
8. ENGINEERING TECH MHRS	369,600	TOTAL H.O. MANHOURS	499,000	.73
FIELD MANPOWER & MANHOURS				
9. NON-MANUAL MANHOURS	350,600	DIRECT + DISTRIB MANUAL MHRS	1674,100	.21
10. NON-MANUAL MANHOURS	350,600	DIRECT + DISTRIB + S/C MAN. MHRS	1924,700	.18
11. DISTRIBUTABLE MANUAL MHRS	232,300	DIRECT MANUAL MANHOURS	1383,100	.21
12. NM MANPOWER PEAK	121	MANUAL MANPOWER PEAK	1241	.10
13. MANUAL MANPOWER PEAK	1241	MANUAL MANPOWER AVERAGE	510	2.43
14. NM MANPOWER PEAK	121	NM MANPOWER AVERAGE	80	1.51
15. BECHTEL DIRECT MANUAL MHRS	1383,100	FINAL PRODUCTIVITY FACTOR (DIRECTS)	1.63	848528
FIELD COSTS				
16. OTHER DIRECT MATL & S/C COSTS	30511.1	MAJ. EQUIPT MATL & S/C COSTS	18979.1	1.61
17. OFFPLOT MATL & S/C COSTS	13794.6	PROCESS UNITS MATL & S/C COSTS	30916.5	.45
18. OFFPLOT MANUAL MHRS (INCL. S/C)	184300	PROCESS UNITS MANUAL MHRS	943,700	.51
19. TOTAL DIRECT MATL & S/C COSTS	52197	COST INDEX TO CONVERT TO 1970 \$	2.7	19330
20. DISTRIBUTABLE COSTS	19570.6	DIRECT LABOR COSTS	26837.4	.73
BULK MATERIAL RATIOS				
21. INSTRUMENT MATL & S/C COSTS (EXCL. TDC)	2583.4	NO. OF CONTROL LOOPS	248	10.4
22. LINEAL FEET OF PIPE	178653	NO. PIECES OF EQUIPT	309	578
23. TOTAL PIPING MANHOURS (INCL. S/C)	517,000	LINEAL FEET OF PIPE	178653	2.89
24. TOTAL PIPING COSTS	13574.3	LINEAL FEET OF PIPE	178653	.11
25. TOTAL PIPING MATL & S/C COSTS	10842.7	MAJ. EQUIPT MATL & S/C COSTS	18979.1	.57
26. LIN FT SMALL PIPE	73156	LIN FT LARGE PIPE	95171	.77
27. LIN FT SHOP SPOOLED PIPE	19941	LINEAL FEET OF PIPE	178653	.28
28. NUMBER OF SPOOLS	2740	NO. PIECES OF EQUIPT	309	8.81
29. LIN FT OF WIRE (P31 & P32)	529031	CONNECTED HORSEPOWER	11716	45.1
30. LIN FT OF WIRE (P31, P32 & P33)	157607	LIN FT OF CONDUIT	261655	3.66
31. PWR & CONTROL EQUIPT COSTS	844.6	TOTAL ELECT ACCT MATERIAL COSTS	3783	.22
32. CUBIC YARDS CONCRETE	5737	NO. PIECES OF EQUIPT	309	19.2
33. TONS OF STRUCTURAL STEEL	577.1	NO. PIECES OF EQUIPT	309	1.87
34. EQUIV L.F. INSULATION	139943	LIN FT A/G PIPE	168939	.83
35. CUBIC YDS EXCAVATION + B.F.	52435	CUBIC YDS CONCRETE	11624	4.51

QUANTITY AND MANHOUR DETAIL

Item	Quantity	Bechtel & S/C Manhours	Unit Manhours
MAJOR EQUIPMENT			
Columns/Vessels	70 EA 1268.4 TON	31315	44736 2467
Tanks	5 EA BBL	120	24.00
Exchangers	76 EA	16206	213.24
Fired Heaters	438 EA BTU	44385	18877 215.00
Pumps	67 EA BHP	9921	148.07
Compressors	11 EA 8661 BHP	16606	1509.64 1.92
Special Equipment	75 EA	1859	25.46
Total Major Equipt.	309 EA		
INSTRUMENTS			
Field Mounted Instr.	3644 EA	70221	19.27
Panel Instruments	- EA	-	-
Control Valves	- EA	-	-
Package Control Syst.	19 EA	733	38.58
PIPING			
2" & Under CS	71695 LF	158218	2.21
2 1/2" - 6" St. Run CS		LF	
8" - 12" St. Run CS		LF	
14" - 24" St. Run CS	45230 LF	44313	.98
26" & Over St. Run CS		LF	
2 1/2" - 6" Spools CS		LF	
8" - 12" Spools CS	47779 LF	203640	4.26
14" - 24" Spools CS		LF	
26" & Over Spools CS		LF	
Total A/G CS	164704 LF	406171	2.47
Underground Pipe	9719 LF	15590	1.60
Specialty Pipe (P.T. 16 PER TRACE)	19040 LF	5453	.29
CS Valves (2 1/2" & Larger)	- EA		
Alloy Pipe	4230 LF	31155	7.37
Steam Tracing	40610 LF	21849	.54
Hangers/Supports	EA	WITH PIPING	
Test/Inspect	193153 LF	25302	.13
Material Handling		N/A	
STEEL			
Structural Steel	383.8 T	20250	52.76
Platforms, Ladders	193.3 T	19281	99.75
Other Steel	464.1 T	23067	49.70
Total Steel	1041.5 T	62598	60.10
INSULATION			
Pipe Ins. (Ftg. Fact Avg. 0)	139943 ELF	55857	.40
Equipment Insul.	41679 SF	18129	.43
Fireproofing	17236 SF	5803	.34
ELECTRICAL			
Equipment	1927 EA	25273	13.12
A/G Conduit	234799 LF	123268	.53
U/G Conduit	26856 LF	6320	.24
Wire & Cable	1029279 LF	48221	.05
Connections	61529 EA	31266	.51
Elect. Ht. Tracing	12790 LF	5034	.39
Cable Tray	13224 LF	19892	1.50
CONCRETE WORK			
Formwork	152862 SF	116941	.77
Rebar	988.7 T	49149	49.71
Concrete	9251 CY	28947	3.13
Total Q Acct	11624 CY	222559	19.15
BUILDINGS			
	2721 SF	15081	5.54
SITE WORK			
Excavation	29183 CY	21592	.74
Backfill	23252 CY	20243	.87
Sewers/Drains	6230 LF	11917	1.91
PAINTING S/C			
	74010 SF	3402	.05

PREPARED BY C. JACKSON

PHR 1.1-3

QUANTITY & UNIT RATE SUMMARY

1.2 COST BREAKDOWN BY CATEGORY



JOB NO. 14053

DESCRIPTION RRMP

CLIENT MARATHON OIL COMPANY

LOCATION ROBINSON, ILLINOIS

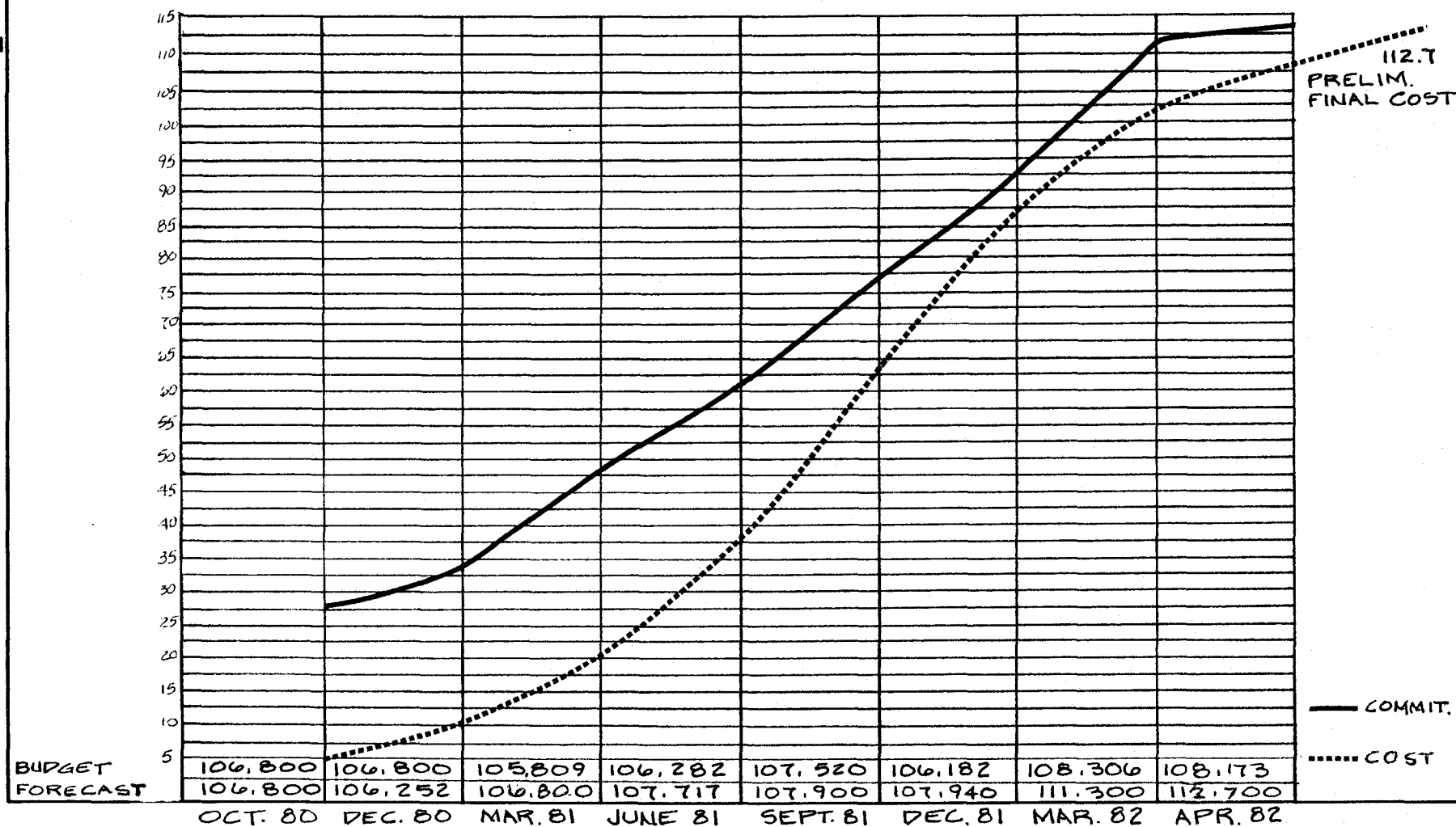
HISTORY OF BUDGETS

FORECASTS COMMITMENTS & COSTS

CONST. DATES 10/80 TO 4/82

PREPARED BY C. JACKSON

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JOB NO. 14053
DESCRIPTION RRMP
CLIENT MARATHON OIL CO.
LOCATION ROBINSON, IL

COSTS AND COMMITMENT HISTORY

CONST. DATES 10/80 TO 4/82
PREPARED BY D. L. LEE

YEAR	19 <u>81</u>				19 <u>82</u>				19 <u> </u>			
CUTOFF DATE	March 31	June 30	Sept. 30	Dec. 31	March 31	APR 30	Sept. 30	Dec. 31	March 31	June 30	Sept. 30	Dec. 31
PROJECT COSTS (CASH FLOW)												
Major Equipment	2409	6249	13944	19130	19789	20024						
Other Direct Material	3853	8472	14524	19492	22412	22992						
Direct Labor (INCL. DISTRIB. LABOR)	1856	4791	11409	19245	29287	31408						
Subcontracts	1176	1184	2590	2698	4507	6003						
Subtotal Directs	9294	20696	42467	60565	75995	80427						
Distributables (Excl. Non-Manual)	1990	3264	4247	6180	7523	7877						
Non-Manual Labor	1310	2184	3457	4631	5446	5803						
Subtotal Field Costs	12594	26144	50171	71376	88969	94107						
Home Office	5565	8128	9671	10745	11224	11330						
TOTAL PROJECT	18159	34272	59842	82121	100188	105437						
PROJECT COMMITMENTS												
Direct Material												
Major Equipment	18720	19438	20128	20177	20235	20219						
Instruments	5030	6649	7017	7471	7564	7514						
Piping	3458	4431	5228	6374	7573	7874						
Structural Steel	1733	1716	1499	1640	1695	1695						
Electrical	1479	3067	3328	3585	3886	3934						
Concrete Work	1433	1217	1843	1928	1945	1821						
All Other Direct Material	600	313	444	478	490	493						
TOTAL DIRECT MATERIAL	32953	36831	39487	41653	43388	43610						
Direct Subcontracts												
PIPING	-	-	-	400	2480	2950						
Insulation	557	557	2673	3773	3640	3640						
Buildings	-	438	447	570	570	570						
Other (List Major S/C): SITEWORK	620	630	628	628	601	601						
REACTOR ERECTION & INTERNALS	265	265	478	502	544	548						
OTHER	216	166	518	919	1543	1557						
TOTAL DIRECT SUBCONTRACTS	1658	2056	4744	6792	9378	9866						
Distributable Material & S/C	3122	4737	5609	6889	7443	8281						

COSTS AND COMMITMENT HISTORY

PHR 1.1-5

PAGE

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GARRARD 000005000

CONSTR. DATES 10/80 TO 4/82
PREPARED BY M. GALDWAY

"C" — COLUMNS & VESSELS

JOB LOCATION ROBINSON, ILLINOIS

SUMMARY OF COLUMNS & VESSELS	INSTALLED QUANTITIES	FINAL MANHOURS		DIRECT COST \$ 1000	
		Bechtel	S/C	Bechtel Matl.	S/C L & M
CARRY FORWARD FROM PHR <u>1.2-2</u> PAGE <u>2</u> PLANT 9	6 EA	733	-	142.1	-
CARRY FORWARD FROM PHR <u>1.2-2</u> PAGES <u>3/4/5</u> PLANT 16	40 EA	18136	5943	3899.1	548.5
CARRY FORWARD FROM PHR <u>1.2-2</u> PAGE <u>2</u> PLANT 21	1 EA	59	-	11.4	-
CARRY FORWARD FROM PHR <u>1.2-2</u> PAGE <u>6</u> PLANT 23	15 EA	4475	50	595.1	1.5
CARRY FORWARD FROM PHR <u>1.2-2</u> PAGE <u>7</u> PLANT 28	7 EA	771	-	209.7	-
CARRY FORWARD FROM PHR <u>1.2-2</u> PAGE <u>7</u> PLANT 29	1 EA	42	1106	15.10	56.8
CARRY FORWARD FROM PHR _____ PAGE _____	EA				
CARRY FORWARD FROM PHR _____ PAGE _____	EA				
TOTAL COLUMNS & VESSELS	1248 ^{TONS} / 70 EA	24216	7099	4873.0	606.8

"C" ACCOUNT - COLUMNS & VESSELS

PHR 1.2.1

PAGE

GARRARD 00000501

1.3 COST BREAKDOWN BY PLANT

PLANT SUMMARY
Dollars & Manhours In Thousands

PAGE 1
PLANT NUMBER 9
DESCRIPTION AMINE TREATING

JOB NO. 14053 CONST. DATES 10/80 TO 4/82
JOB DESCRIPTION RRMP
CLIENT MARATHON OIL COMPANY
LOCATION ROBINSON, ILLINOIS

CAPACITY (PLANT REVAMP)

OVERALL SUMMARY	COSTS				MANHOURS	
	Material	Labor	S/C	Total	Bechtel	S/C
MAJOR EQUIPMENT						
C—Columns & Vessels	142.1	15.6	—	157.7	.7	—
D—Tanks	—	—	—	—	—	—
E—Exchangers	245.7	4.5	—	250.2	.2	—
F—Fired Heaters	—	—	—	—	—	—
G—Pumps	23.3	—	0.2	23.5	—	—
K—Compressors	77.9	4.5	0.3	82.7	.3	—
T—Special Equip.	3.0	—	—	3.0	—	—
SUBTOTAL	492.0	24.6	0.5	517.1	1.2	—
OTHER DIRECTS						
J—Instruments	134.9	2.8	28.0	165.7	.1	1.0
L—Piping	304.2	11.6	448.4	764.2	.5	15.4
M—Steel	100.0	52.7	1.1	153.8	2.7	—
N—Insulation	—	—	67.7	67.7	—	2.4
P—Electrical	79.7	60.1	—	139.8	3.1	—
O—Concrete Work	25.0	42.7	—	67.7	2.5	—
R—Buildings	—	—	—	—	—	—
S—Site Work	16.0	47.5	—	63.5	2.9	—
X—Painting	—	—	—	—	—	—
SUBTOTAL	659.8	217.4	545.2	1422.4	11.8	18.8

TOTAL DIRECT COSTS	1151.8	242.0	545.7	1939.5	13.0	18.8
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H.O. ENGINEERING						
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	Col A	UNIT RATES AND RATIO ANALYSIS	Col B	A ÷ B
Other Direct Material & S/C \$	1205		492.5	2.45
Lineal Feet of Pipe	5888	Major Equipment Material & S/C \$	22	268
Number of Spools	136	No. Pieces of Equipment	22	6.2
Cubic Yards of Concrete	133	No. Pieces of Equipment	22	6.0
Lin. Ft. Wire (P31 & P32)	17400	Connected Horsepower	35	497.14
Total Piping Manhours	15881	Lineal Feet of Pipe	5888	2.70
Peak Manual Manpower	N/A	Area in Battery Limits (SF)	4080	—
Job Overall Labor Productivity	163			

QUANTITY AND MANHOUR DETAIL				
Item	Quantity	Bechtel & S/C Manhours	Unit	Manhours
MAJOR EQUIPMENT				
Columns/Vessels	34.3 EA	733	122 / 214	
Tanks	— EA	—	—	
Exchangers	9 EA	213	24	
Fired Heaters	— EA	—	—	
Pumps	3 EA	10	3	
Compressors	137 EA	252	252 / 18	
Special Equipment	3 EA	W/L	W/L	
Total Major Equip.	22 EA			
INSTRUMENTS				
Field Mounted Instr.	93 EA	306	3.29	
Panel Instruments	— EA	—	—	
Control Valves	— EA	—	—	
Package Control Syst.	— EA	—	—	
PIPING				
2" & Under CS	3500 LF	4909	1.40	
2 1/2" - 6" St. Run CS	— LF	—	—	
8" - 12" St. Run CS	— LF	—	—	
14" - 24" St. Run CS	— LF	—	—	
26" & Over St. Run CS	— LF	—	—	
2 1/2" - 6" Spools CS	— LF	—	—	
8" - 12" Spools CS	2261 LF	6947	3.07	
14" - 24" Spools CS	— LF	—	—	
26" & Over Spools CS	— LF	—	—	
Total A/G CS	5761 LF	11856	2.06	
Underground Pipe	127 LF	286	2.25	
Specialty Pipe	— LF	—	—	
CS Valves (2 1/2" & Larger)	— EA	—	—	
Alloy Pipe	623 LF	1171	1.88	
Steam Tracing	3981 LF	1499	0.38	
Hangers/Supports	W/L EA	W/L	—	
Test/Inspect	9292 LF	1074	.12	
Material Handling	—	W/L	—	
STEEL				
Structural Steel	7.6 T	210	27.6	
Platforms, Ladders	7.1 T	1039	146.3	
Other Steel	43.0 T	1496	34.8	
Total Steel	57.7 T	2745	47.6	
INSULATION				
Pipe Ins. — Ftg. Fact Avg. ϕ	3377 ELF	1520	0.45	
Equipment Insul.	1530 SF	753	0.49	
Fireproofing (EQUIP)	1602 SF	176	0.11	
ELECTRICAL				
Equipment	39 EA	241	6.18	
A/G Conduit	5250 LF	1840	0.35	
U/G Conduit	— LF	—	—	
Wire & Cable	20665 F	632	0.031	
Connections	180 EA	172	.96	
Elect. Ht. Tracing	50 LF	42	.84	
Cable Tray	— LF	—	—	
CONCRETE WORK				
Formwork	2690 SF	1024	.38	
Rebar	6.7 T	715	106.7	
Concrete	133 CY	390	2.93	
Total Q Acct	208 CY	2468	11.87	
BUILDINGS				
SITE WORK				
Excavation	653 CY	1324	2.03	
Backfill	499 CY	310	.62	
Sewers/Drains	287 LF	1209	4.21	
PAINING	— SF	—	—	

PREPARED BY B. HADDAWAY

PHR 1.3-1

PLANT SUMMARY

GARRARD 00000503

JOB NO 14053 CONST. DATES 10/80 TO 4/82
 JOB DESCRIPTION RRMP
 CLIENT MARATHON OIL COMPANY
 LOCATION ROBINSON, ILLINOIS

PLANT SUMMARY
 Dollars & Manhours In Thousands

PAGE 2
 PLANT NUMBER 16
 DESCRIPTION CCR PLATFORMER
 NAPHTHA HYDRO-
 TREATER.
 CAPACITY 30,000 BPSD

OVERALL SUMMARY	COSTS				MANHOURS	
	Material	Labor	S/C	Total	Bechtel	S/C
MAJOR EQUIPMENT						
C-Columns & Vessels	3899.1	386.4	548.5	4834.0	18.1	6.0
D-Tanks	5.7	1.1	-	6.8	0.1	-
E-Exchangers	3492.9	227.3	8.6	3728.8	10.9	0.3
F-Fired Heaters	4769.7	1660.1	417.5	6847.3	77.6	11.7
G-Pumps	745.2	91.5	28.6	865.3	4.9	1.0
K-Compressors	3984.2	283.4	38.5	4306.1	15.0	1.3
T-Special Equipmt.	224.5	22.4	-	246.9	1.1	-
SUBTOTAL	17121.3	2672.2	1041.7	20835.2	127.7	20.3
OTHER DIRECTS						
J-Instruments	1608.5	455.5	24.3	2088.3	21.8	0.8
L-Piping	3282.4	5573.9	1339.4	10195.7	265.9	43.5
M-Steel	795.4	616.3	80.4	1492.1	31.7	1.8
N-Insulation	3.7	23.1	1800.3	1827.1	1.0	46.3
P-Electrical	1219.7	1780.1	6.0	3005.8	91.4	0.2
Q-Concrete Work	1440.2	2913.9	74.9	4429.0	168.3	1.4
R-Buildings	28.9	56.3	73.0	158.2	3.3	1.2
S-Site Work	188.3	387.9	682.4	1258.6	23.8	12.5
X-Painting	.4	.3	107.3	108.0	-	3.2
SUBTOTAL	8567.5	11807.3	4188.0	24562.8	607.2	110.9

TOTAL DIRECT COSTS	25688.8	14479.5	5229.7	45398.0	734.9	131.2
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H.O. ENGINEERING						
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UNIT RATES AND RATIO ANALYSIS			
Col A		Col B	A ÷ B
Other Direct Material & S/C \$	12755.5	Major Equipment Material & S/C \$	18163.70
Lineal Feet of Pipe	75934 LF	No. Pieces of Equipment	189 402
Number of Spools	1319	No. Pieces of Equipment	189 7
Cubic Yards of Concrete	7645 CY	No. Pieces of Equipment	189 40.4
Lin. Ft. Wire (P31 & P32)	271190 LF	Connected Horsepower	10519.5 25.78
Total Piping Manhours	309400	Lineal Feet of Pipe	75934 4.08
Peak Manual Manpower	714 MEN	Area in Battery Limits (SF)	70000 0.0102
Job Overall Labor Productivity	1.63		

QUANTITY AND MANHOUR DETAIL				
Item	Quantity	Bechtel & S/C Manhours	Unit Manhours	
MAJOR EQUIPMENT				
Columns/Vessels	40 EA 807.6 TON	24079	602/EA 29.6/TON	
Tanks	2 EA BBL	54	27/EA	
Exchangers	46 EA	11131	242/EA	
Fired Heaters	401.4 MBTU	89257	22314/EA 22314/MBTU	
Pumps	28 EA 1996 BHP	5824	208/EA 2.92/BHP	
Compressors	10 EA 8524 BHP	16354	1635/EA 1.92/BHP	
Special Equipment	59 EA	1075	18/EA	
Total Major Equipmt.	189 EA			
INSTRUMENTS				
Field Mounted Instr.	1103 EA	6959	6.3/EA	
Panel Instruments	- EA			
Control Valves	- EA			
Package Control Syst.	15 EA	627	418/EA	
PIPING				
2" & Under CS	37050 LF	103817	2.80/LF	
2 1/2"-6" St. Run CS		LF		
8"-12" St. Run CS		LF		
14"-24" St. Run CS	9436 LF	7592	0.81/LF	
26" & Over St. Run CS		LF		
2 1/2" - 6" Spools CS		LF		
8" - 12" Spools CS	23538 LF	117395	4.99/LF	
14" - 24" Spools CS		LF		
26" & Over Spools CS		LF		
Total A/G CS	70024 LF	228804	3.27/LF	
Underground Pipe	6188 LF	9177	1.48/LF	
Specialty Pipe PLT 1/6 PERKATRACE	19040 LF	5453	0.29/LF	
CS Valves (2 1/2" & Larger)	- EA			
Alloy Pipe	3607 LF	29984	8.31/LF	
Steam Tracing	15901 LF	9413	0.59/LF	
Hangers/Supports	(INCL.) EA	(INCL.)		
Test/Inspect	92989 LF	16547	0.18/LF	
Material Handling		(PISTRIBS)		
STEEL				
Structural Steel	366 T	19305	52.75/TON	
Platforms, Ladders	140 T	13144	93.88/TON	
Other Steel	22 T	1024	46.55/TON	
Total Steel	528 T	33473	63.40/TON	
INSULATION				
Pipe Ins. 1" Ftg. Fact. 1/2" Avg. Ø	72671 ELF	30564	0.421/ELF	
Equipment Insul.	29391 SF	11957	0.407/SF	
Fireproofing	7489 SF	3718	0.496/SF	
ELECTRICAL				
Equipment	813 EA	10242	12.60/EA	
A/G Conduit	79819 LF	45960	0.58/LF	
U/G Conduit	17676 LF	4183	0.24/LF	
Wire & Cable	379155 LF	14882	0.04/LF	
Connections	13157 EA	8981	0.68/EA	
Elect. Ht. Tracing	2500 LF	2011	0.80/LF	
Cable Tray	895 LF	1268	1.42/LF	
CONCRETE WORK				
Formwork	114843 SF	92591	0.81/SF	
Rebar	881 T	39034	44.3/TON	
Concrete	7645 CY	22119	2.90/CY	
Total Q Acct	8997 CY	168307	18.71/CY	
BUILDINGS				
	1841 SF	4500	2.44/SF	
SITE WORK				
Excavation	20867 CY	9299	0.45/CY	
Backfill	15578 CY	12103	0.78/CY	
Sewers/Drains	3161 LF	3415	1.08/LF	
PAINTING (S/C)	69110 SF	3252	0.047	

NOTES: COLS. / VESSELS → WT. "AS LIFTED".
 REBAR → MHS INCL. FAB. REBAR (QTY NOT INCL.).
 SITE WORK → MASS EXCAVATION DONE BY S/C.

PLANT SUMMARY

PREPARED BY M. MILLER

PHR 1.3-1

Dollars & Manhours In Thousands

PLANT NUMBER 21/20 PAGE 3
DESCRIPTION INTERCONNECTING
PIPEWAYS &
TANK FARM
CAPACITY N/A

	Col A	UNIT RATES AND RATIO ANALYSIS	Col B	A ÷ B
Other Direct Material & S/C \$	<u>4240.7</u>	Major Equipment Material & S/C \$	<u>639</u>	<u>4636</u>
Lineal Feet of Pipe	<u>60117</u>	No. Pieces of Equipment	<u>7</u>	<u>8588</u>
Number of Spools	<u>424</u>	No. Pieces of Equipment	<u>7</u>	<u>60.6</u>
Cubic Yards of Concrete	<u>217</u>	No. Pieces of Equipment	<u>7</u>	<u>31</u>
Lin. Ft. Wire (P31 & P32)	<u>1200</u>	Connected Horsepower	<u>145</u>	<u>7.27</u>
Total Piping Manhours	<u>92800</u>	Lineal Feet of Pipe	<u>60117</u>	<u>1.54</u>
Peak Manual Manpower	<u>N/A</u>	Area in Battery Limits (SF)	<u>N/A</u>	<u>-</u>
Job Overall Labor Productivity	<u>1.63</u>			

QUANTITY AND MANHOUR DETAIL				
Item	Quantity	Bechtel & S/C Manhours	Unit Manhours	
MAJOR EQUIPMENT				
Columns/Vessels	1/23 EA TON	59	59/257	
Tanks	EA BBL			
Exchangers	EA			
Fired Heaters	EA BTU			
Pumps	6 EA BHP	314	52	
Compressors	EA BHP			
Special Equipment	EA			
Total Major Equip.	7 EA			
INSTRUMENTS				
Field Mounted Instr.	EA			
Panel Instruments	EA	WITH PLANT	99	
Control Valves	EA			
Package Control Syst.	EA			
PIPING				
2" & Under CS	15262 LF	16556	1.08	
2 1/2" - 6" St. Run CS	LF			
8" - 12" St. Run CS	LF			
14" - 24" St. Run CS	35794 LF	36721	1.03	
26" & Over St. Run CS	LF			
2 1/2" - 6" Spools CS	LF			
8" - 12" Spools CS	9061 LF	32944	3.64	
14" - 24" Spools CS	LF			
26" & Over Spools CS	LF			
Total A/G CS	60117 LF	86221	1.43	
Underground Pipe	- LF	-	-	
Speciality Pips	- LF	-	-	
CS Valves (2 1/2" & Larger)	EA			
Alloy Pipe	- LF	-	-	
Steam Tracing	8803 LF	3984	.45	
Hangers/Supports	EA	WITH PIPING		
Test/Inspect	59055 LF	2567	.043	
Material Handling		N/A		

Item	Quantity	Bechtel & S/C Manhours	Unit Manhours	
STEEL				
Structural Steel	T			
Platforms, Ladders	T			
Other Steel	332.5 T	16551	49.8	
Total Steel	332.5 T	16551	49.8	
INSULATION				
Pipe Ins. — Ftg. Fact Avg. Φ	31762 ELF	10991	.396	
Equipment Insul.	SF			
Fireproofing	144 SF	18	0.125	
ELECTRICAL				
Equipment	8 EA	97	12.13	
A/G Conduit	600 LF	291	.49	
U/G Conduit	LF			
Wire & Cable	1200 LF	74	.062	
Connections	50 EA	126	2.52	
Elect. Ht. Tracing	2800 LF	621	.22	
Cable Tray	- LF	-	-	
CONCRETE WORK				
Formwork	SF			
Rebar	T	COMPOSITE ACCT		
Concrete	CY			
Total Q Acct	217 CY	2698	12.43	
BUILDINGS				
	- SF	-	-	
SITE WORK				
Excavation	449 CY	1107	2.36	
Backfill	288 CY	333	1.16	
Sewers/Drains	- LF	-	-	
PAINTING				
	- SF	-	-	

NOTES:	

PREPARED BY BRETT HADDAWAY PHR 13-1

JOB NO 14053 CONST. DATES 10/80 TO 4/82
 JOB DESCRIPTION RMP
 CLIENT MARATHON OIL COMPANY
 LOCATION ROBINSON, ILLINOIS

PLANT SUMMARY Dollars & Manhours In Thousands

PLANT NUMBER 23 PAGE 1
 DESCRIPTION SATURATES
 GAS PLANT
 CAPACITY 1000

OVERALL SUMMARY	COSTS				MANHOURS	
	Material	Labor	S/C	Total	Bechtel	S/C
MAJOR EQUIPMENT						
C-Columns & Vessels	595.1	95.3	1.5	691.9	4.5	-
D-Tanks	-	-	-	-	-	-
E-Exchangers	618.7	40.8	-	659.5	1.9	-
F-Fired Heaters	258.9	100.2	16.1	375.2	4.7	0.5
G-Pumps	198.1	26.3	1.5	225.9	1.4	-
K-Compressors	-	-	-	-	-	-
T--Special Equipmt.	.4	1.6	-	2.0	.1	-
SUBTOTAL	1671.2	264.2	19.1	1954.5	12.6	0.5
OTHER DIRECTS						
J-Instruments	375.1	111.1	18.9	505.1	5.3	0.7
L-Piping	725.1	1059.5	94.3	1878.9	50.5	3.3
M-Steel	100.1	106.3	1.9	208.3	5.5	0.1
N-Insulation	1.3	-	252.2	253.5	1.1	9.4
P-Electrical	404.4	347.9	-	752.3	17.8	-
Q-Concrete Work	130.6	530.1	-	660.7	30.7	-
R-Buildings	17.0	12.9	7.1	37.0	.8	0.1
S-Site Work	117.7	390.6	0.2	508.5	23.9	-
X-Painting	.6	-	4.6	5.2	-	0.2
SUBTOTAL	1871.9	2558.4	379.2	4809.5	135.6	13.8

TOTAL DIRECT COSTS	3543.1	2822.6	398.3	6764.0	148.2	14.3
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H.O. ENGINEERING						
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Col A	UNIT RATES AND RATIO ANALYSIS		Col B	A ÷ B
Other Direct Material & S/C \$	2251.1		Major Equipment Material & S/C \$	1690.3 1.33
Lineal Feet of Pipe	16323		No. Pieces of Equipment	54 302
Number of Spools	470		No. Pieces of Equipment	54 8.7
Cubic Yards of Concrete	695		No. Pieces of Equipment	54 12.87
Lin. Ft. Wire (P31 & P32)	65700		Connected Horsepower	281.82 233.13
Total Piping Manhours	53776		Lineal Feet of Pipe	16323 3.29
Peak Manual Manpower	N/A		Area in Battery Limits (SF)	21990 -
Job Overall Labor Productivity	1.63			

QUANTITY AND MANHOUR DETAIL				
Item	Quantity	Bechtel & S/C Manhours	Unit Manhours	
MAJOR EQUIPMENT				
Columns/Vessels	14 EA 325 TON	4525	323/139	
Tanks	EA BBL			
Exchangers	17 EA	1943	114	
Fired Heaters	1/366 EA MAX. BTU	5128	5128 / 140 MAX.	
Pumps	20 EA BHP	1443	72	
Compressors	EA BHP	-		
Special Equipment	2 EA	82	41	
Total Major Equipmt.	54 EA			
INSTRUMENTS	257 EA	5979	23.3	
Field Mounted Instr.	257 EA	2099	8.17	
Panel Instruments	- EA	-	-	
Control Valves	EA			
Package Control Syst.	1 EA	8	8	
PIPING				
2" & Under CS	7904 LF	18600	2.35	
2 1/2" - 6" St. Run CS	LF			
8" - 12" St. Run CS	LF	RACK PIPE IN		
14" - 24" St. Run CS	LF	PLT 21		
26" & Over St. Run CS	LF			
2 1/2" - 6" Spools CS	LF			
8" - 12" Spools CS	7429 LF	25356	3.41	
14" - 24" Spools CS	LF			
26" & Over Spools CS	LF			
Total A/G CS	15333 LF	43956	2.87	
Underground Pipe	990 LF	1236	1.25	
Speciality Pipe	- LF	-	-	
CS Valves (2 1/2" & Larger)	EA			
Alloy Pipe	- LF	-	-	
Steam Tracing	4440 LF	3005	.68	
Hangers/Supports	EA	WITH PIPING		
Test/Inspect	24212 LF	4195	.17	
Material Handling		N/A		
STEEL				
Structural Steel	7.4 T	650	87.8	
Platforms, Ladders	33.6 T	4054	120.6	
Other Steel	17.3 T	816	47.2	
Total Steel	58.3 T	5520	94.7	
INSULATION				
Pipe Ins. - Ftg. Fact Avg. Φ	8111 ELF	3651	0.45	
Equipment Insul.	8712 SF	4407	0.506	
Fireproofing (EQUIP)	5742 SF	1642	0.286	
ELECTRICAL				
Equipment	255 EA	1913	7.50	
A/G Conduit	26500 LF	10472	.40	
U/G Conduit	3470 LF	563	.16	
Wire & Cable	99445 LF	3257	.033	
Connections	3736 EA	1293	.35	
Elect. Ht. Tracing	- LF	-	-	
Cable Tray	- LF	-	-	
CONCRETE WORK				
Formwork	21067 SF	13861	.66	
Rebar	65 T	6030	92.8	
Concrete	695 CY	3088	4.44	
Total Q Acct	1211 CY	30615	25.28	
BUILDINGS				
	196 SF	868	4.43	
SITE WORK				
Excavation	3745 CY	4490	1.20	
Backfill	3676 CY	3671	1.00	
Sewers/Drains	1537 LF	3366	2.19	
PAINTING	4900 SF	150	0.031	
NOTES: REBAR MHS INCLUDE ON-SITE FABRICATION CHARGES "Q-01" AS WELL AS "Q-21, 22, & 62"				
"R" - REVAMP EXIST BUILDING - NO S.F.				

PLANT SUMMARY

PREPARED BY BRETT HADDAWAY PHR 1.3-1

JOB NO 14053 CONST. DATES 10/80 TO 4/82
 JOB DESCRIPTION RRMP
 CLIENT MARATHON OIL CO.
 LOCATION ROBINSON, ILLINOIS

PLANT SUMMARY Dollars & Manhours In Thousands

PLANT NUMBER 28 PAGE 5
 DESCRIPTION LPG TREATING
 CAPACITY

OVERALL SUMMARY	COSTS				MANHOUR	
	Material	Labor	S/C	Total	Bechtel	S/C
MAJOR EQUIPMENT						
C-Columns & Vessels	209.7	16.4	-	226.1	.8	-
D-Tanks	-	-	-	-	-	-
E-Exchangers	18.3	.7	-	19.0	-	-
F-Fired Heaters	-	-	-	-	-	-
G-Pumps	-	-	-	-	-	-
K-Compressors	-	-	-	-	-	-
T-Special Equipmt.	203.1	3.2	1.1	207.4	.2	-
SUBTOTAL	431.1	20.3	1.1	452.5	1.0	-

OTHER DIRECTS						
J-Instruments	88.3	15.6	2.1	106.0	.8	0.1
L-Piping	218.3	226.8	34.6	479.7	10.8	1.2
M-Steel	24.6	21.6	-	46.2	1.1	-
N-Insulation	-	-	47.8	47.8	-	1.7
P-Electrical	77.6	83.9	-	161.5	4.3	-
Q-Concrete Work	16.1	31.3	-	47.4	1.8	-
R-Buildings	-	-	-	-	-	-
S-Site Work	-	-	-	-	-	-
X-Painting	-	-	-	-	-	-
SUBTOTAL	424.9	379.2	84.5	888.6	18.8	3.0

TOTAL DIRECT COSTS	856.0	399.5	85.6	1341.1	19.8	3.0
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H.O. ENGINEERING						
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UNIT RATES AND RATIO ANALYSIS			
Col A		Col B	A ÷ B
Other Direct Material & S/C \$	509.4	Major Equipment Material & S/C \$	432.2 1.18
Lineal Feet of Pipe	4597	No. Pieces of Equipment	10 460
Number of Spools	64	No. Pieces of Equipment	10 64
Cubic Yards of Concrete	81	No. Pieces of Equipment	10 8.1
Lin. Ft. Wire (P31 & P32)	12000	Connected Horsepower	N/A -
Total Piping Manhours	11997	Lineal Feet of Pipe	4597 2.61
Peak Manual Manpower	N/A	Area in Battery Limits (SF)	- -
Job Overall Labor Productivity	1.63		

QUANTITY AND MANHOUR DETAIL				
Item	Quantity	Bechtel & S/C Manhours	Unit Manhours	
MAJOR EQUIPMENT				
Columns/Vessels	7 EA 72.6 TON	771	110/10.6	
Tanks	- EA BBL	-	-	
Exchangers	2 EA	34	17	
Fired Heaters	- EA BTU	-	-	
Pumps	- EA BHP	-	-	
Compressors	- EA BHP	-	-	
Special Equipment	1 EA	221	221	
Total Major Equipmt.	10 EA			
INSTRUMENTS				
Field Mounted Instr.	60 EA	821	13.7	
Panel Instruments	- EA	370	6.17	
Control Valves	- EA	-	-	
Package Control Syst.	- EA	-	-	
PIPING				
2" & Under CS	3495 LF	7195	2.06	
2 1/2" - 6" St. Run CS	- LF			
8" - 12" St. Run CS	- LF	WITH PLANT 21		
14" - 24" St. Run CS	- LF			
26" & Over St. Run CS	- LF			
2 1/2" - 6" Spools CS	- LF			
8" - 12" Spools CS	1102 LF	3475	3.15	
14" - 24" Spools CS	- LF			
26" & Over Spools CS	- LF			
Total A/G CS	4597 LF	10670	2.32	
Underground Pipe	- LF	(WITH PLANT 23)		
Speciality Pipe	- LF	-	-	
CS Valves (2 1/2" & Larger)	- EA	-	-	
Alloy Pipe	- LF	-	-	
Steam Tracing	888 LF	1327	1.49	
Hangers/Supports	- EA	WITH PIPING		
Test/Inspect	- LF	WITH PLANT 23		
Material Handling	-	N/A		
STEEL				
Structural Steel	1.4 T	65	46.4	
Platforms, Ladders	12.6 T	1044	82.9	
Other Steel	- T	-	-	
Total Steel	14.0 T	1109	79.2	
INSULATION				
Pipe Ins. Ftg. Fact Avg. Q	2432 ELF	1094	0.45	
Equipment Insul.	649 SF	235	0.36	
Fireproofing	1517 SF	167	0.11	
ELECTRICAL				
Equipment	39 EA	71	1.82	
A/G Conduit	5000 LF	1872	.37	
U/G Conduit	- LF	-	-	
Wire & Cable	15445 LF	334	.021	
Connections	500 EA	99	.20	
Elect. Ht. Tracing	5300 LF	1930	.36	
Cable Tray	- LF	-	-	
CONCRETE WORK				
Formwork	2191 SF	1120	.51	
Rebar	3.7 T	435	117.6	
Concrete	81 CY	250	3.09	
Total Q Acct	81 CY	1805	22.3	
BUILDINGS				
- SF	-	-	-	
SITE WORK				
Excavation	- CY	-	-	
Backfill	- CY	-	-	
Sewers/Drains	- LF	-	-	
PAINTING				
- SF	-	-	-	
NOTES: SITEWORK INCLUDED WITH PLANT 23				

PLANT SUMMARY

PREPARED BY BRETT HADDAWAY

PHR 1.3-1

PLANT SUMMARY
Dollars & Manhours in Thousands

PLANT NUMBER 29 PAGE 3
DESCRIPTION REFORMER
FEED SPLITTER

JOB NO 14053 CONST. DATES 10/80 TO 4/82
JOB DESCRIPTION RRMP
CLIENT MARATHON OIL COMPANY
LOCATION ROBINSON, ILLINOIS

CAPACITY (FEED REFORMER)

OVERALL SUMMARY	COSTS				MANHOURS	
	Material	Labor	S/C	Total	Bechtel	S/C
MAJOR EQUIPMENT						
C-Columns & Vessels	15.6	.6	56.8	73.0	-	1.1
D-Tanks	-	-	-	-	-	-
E-Exchangers	53.7	8.1	-	61.8	.4	-
F-Fired Heaters	-	-	-	-	-	-
G-Pumps	54.1	4.3	-	58.4	.2	-
K-Compressors	-	-	-	-	-	-
T-Special Equip.	-	.2	-	0.2	-	-
SUBTOTAL	123.4	13.2	56.8	193.4	.6	1.1

OTHER DIRECTS						
J-Instruments	110.3	6.6	30.1	147.0	.3	1.0
L-Piping	171.5	79.7	214.0	465.2	3.8	7.3
M-Steel	1.6	.4	-	2.0	-	-
N-Insulation	-	-	82.4	82.4	-	2.9
P-Electrical	114.4	90.7	-	205.1	4.7	-
Q-Concrete Work	5.4	10.5	-	15.9	.6	-
R-Buildings	-	-	-	-	-	-
S-Site Work	3.0	26.8	-	29.8	1.7	-
X-Painting	-	-	-	-	-	-
SUBTOTAL	406.2	214.7	326.5	947.4	11.1	11.2

TOTAL DIRECT COSTS	529.6	227.9	383.3	1140.8	11.7	12.3
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H.O. ENGINEERING						
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	Col A	UNIT RATES AND RATIO ANALYSIS	Col B	A ÷ B
Other Direct Material & S/C \$	732.7		180.2	4.07
Lineal Feet of Pipe	3794	Major Equipment Material & S/C \$	8	474
Number of Spools	119	No. Pieces of Equipment	8	14.9
Cubic Yards of Concrete	29	No. Pieces of Equipment	8	3.6
Lin. Ft. Wire (P31 & P32)	12400	Connected Horsepower	165	75.15
Total Piping Manhours	11115	Lineal Feet of Pipe	3794	2.93
Peak Manual Manpower	N/A	Area in Battery Limits (SF)	N/A	-
Job Overall Labor Productivity	1.63			

QUANTITY AND MANHOUR DETAIL				
Item	Quantity	Bechtel & S/C Manhours	Unit	Manhours
MAJOR EQUIPMENT				
Columns/Vessels	2 EA 5.2 TON	1148	574/220.8	
Tanks	- EA BBL			
Exchangers	1 EA	383	383	
Fired Heaters	- EA BTU			
Pumps	5 EA BHP	229	45.8	
Compressors	- EA BHP			
Special Equipment	1 EA	12	12	
Total Major Equip.	8 EA			
INSTRUMENTS				
Field Mounted Instr.	76 EA	413	5.43	
Panel Instruments	- EA			
Control Valves	EA			
Package Control Syst.	- EA			
PIPING				
2" & Under CS	1780 LF	2037	1.14	
2 1/2"-6" St. Run CS	LF			
8"-12" St. Run CS	LF	(WITH PLANT 21)		
14"-24" St. Run CS	LF			
26" & Over St. Run CS	LF			
2 1/2" - 6" Spools CS	LF			
8" - 12" Spools CS	1800 LF	7267	4.03	
14" - 24" Spools CS	LF			
26" & Over Spools CS	LF			
Total A/G CS	3580 LF	9304	2.60	
Underground Pipe	214 LF	545	2.55	
Speciality Pips	- LF			
CS Valves (2 1/2" & Larger)	EA			
Alloy Pipe	- LF			
Steam Tracing	478 LF	537	1.12	
Hangers/Supports	EA	WITH PIPING		
Test/Inspect	448 LF	729	.16	
Material Handling		N/A		

PREPARED BY B. HADDAWAY

PHR 1.3-1

PLANT SUMMARY

NOTES: PLANT 29 WORK ENTAILS
MODERNIZATION OF EXISTING
UNIT

PREPARED BY B. HADDAWAY

PHR 1.3-1

PLANT SUMMARY
Dollars & Manhours In Thousands

PLANT NUMBER 30 PAGE 4
DESCRIPTION ELECTRICAL
DISTRIBUTION
CAPACITY 0.7

JOB NO. 14053 CONST. DATES 10/80 TO 4/82
JOB DESCRIPTION RRMP
CLIENT MARATHON OIL COMPANY
LOCATION ROBINSON, ILLINOIS

OVERALL SUMMARY	COSTS				MANHOURS	
	Material	Labor	S/C	Total	Bechtel	S/C
MAJOR EQUIPMENT						
C-Columns & Vessels	-	-	-	-	-	-
D-Tanks	-	-	-	-	-	-
E-Exchangers	-	-	-	-	-	-
F-Fired Heaters	-	-	-	-	-	-
G-Pumps	-	-	-	-	-	-
K-Compressors	-	-	-	-	-	-
T-Special Equipmt.	-	-	-	-	-	-
SUBTOTAL	-	-	-	-	-	-
OTHER DIRECTS						
J-Instruments	-	-	-	-	-	-
L-Piping	-	-	-	-	-	-
M-Steel	-	-	-	-	-	-
N-Insulation	-	-	-	-	-	-
P-Electrical	4.1	80.0	-	84.1	4.1	-
Q-Concrete Work	-	-	-	-	-	-
R-Buildings	-	-	-	-	-	-
S-Site Work	.4	.1	-	0.5	-	-
X-Painting	-	-	-	-	-	-
SUBTOTAL	4.5	80.1	-	84.6	4.1	-

TOTAL DIRECT COSTS	4.5	80.1	-	84.6	4.1	-
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H.O. ENGINEERING						
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	Col A	UNIT RATES AND RATIO ANALYSIS		Col B	A ÷ B
Other Direct Material & S/C \$	4.5			-	-
Lineal Feet of Pipe	-		Major Equipment Material & S/C \$	-	-
Number of Spools	-		No. Pieces of Equipment	-	-
Cubic Yards of Concrete	-		No. Pieces of Equipment	-	-
Lin. Ft. Wire (P31 & P32)	-		Connected Horsepower	-	-
Total Piping Manhours	-		Lineal Feet of Pipe	-	-
Peak Manual Manpower	N/A		Area in Battery Limits (SF)	-	-
Job Overall Labor Productivity	1.63				

QUANTITY AND MANHOUR DETAIL				
Item	Quantity	Bechtel & S/C Manhours	Unit	Manhours
MAJOR EQUIPMENT				
Columns/Vessels	EA			
Tanks	EA			
Exchangers	EA			
Fired Heaters	EA			
Pumps	EA			
Compressors	EA			
Special Equipment	EA			
Total Major Equipmt.	EA			
INSTRUMENTS				
Field Mounted Instr.	EA			
Panel Instruments	EA			
Control Valves	EA			
Package Control Syst.	EA			
PIPING				
2" & Under CS	LF			
2 1/2" - 6" St. Run CS	LF			
8" - 12" St. Run CS	LF			
14" - 24" St. Run CS	LF			
26" & Over St. Run CS	LF			
2 1/2" - 6" Spools CS	LF			
8" - 12" Spools CS	LF			
14" - 24" Spools CS	LF			
26" & Over Spools CS	LF			
Total A/G CS	LF			
Underground Pipe	LF			
Speciality Pipe	LF			
CS Valves (2 1/2" & Larger)	EA			
Alloy Pipe	LF			
Steam Tracing	LF			
Hangers/Supports	EA			
Test/Inspect	LF			
Material Handling				
STEEL				
Structural Steel	T			
Platforms, Ladders	T			
Other Steel	T			
Total Steel	T			
INSULATION				
Pipe Ins. - Ftg. Fact Avg. Ø	ELF			
Equipment Insul.	SF			
Fireproofing	SF			
ELECTRICAL				
Equipment	8 EA	359		44.9
A/G Conduit	245 LF	111		.45
U/G Conduit	- LF	-		-
Wire & Cable (P-50)	13400 LF	3248		.24
Connections (P-35)	36 EA	300		8.33
Elect. Ht. Tracing	- LF	-		-
Cable Tray	- LF	-		-
CONCRETE WORK				
Formwork	SF			
Rebar	T			
Concrete	CY			
Total Q Acct	10 CY	2		.2
BUILDINGS				
SITE WORK				
Excavation	10 CY	8		.80
Backfill	8 CY	-		-
Sewers/Drains	- LF	-		-
PAINTING	- SF	-		-
NOTES:				

PLANT SUMMARY

PREPARED BY B. HADDAWAY

PHR 1.3-1

JOB NO 14053 CONST. DATES 10/80 TO 4/82
 JOB DESCRIPTION RRMP
 CLIENT MARATHON OIL COMPANY
 LOCATION ROBINSON, ILL.

PLANT SUMMARY Dollars & Manhours In Thousands

PLANT NUMBER 31
 DESCRIPTION UTIL. GEN.
 AND DIST.
 CAPACITY (SEE NOTES)

OVERALL SUMMARY	COSTS (000's \$)				MANHOURS (000's)	
	Material	Labor	S/C	Total	Bechtel	S/C
MAJOR EQUIPMENT						
C-Columns & Vessels	-	-	-	-	-	-
D-Tanks	-	-	-	-	-	-
E-Exchangers	-	-	-	-	-	-
F-Fired Heaters	-	-	-	-	-	-
G-Pumps	9.2	7.6	-	16.8	0.4	-
K-Compressors	-	-	-	-	-	-
T-Special Equip.	-	-	-	-	-	-
SUBTOTAL	9.2	7.6	-	16.8	0.4	-

OTHER DIRECTS						
J-Instruments	12.3	5.6	0.6	18.5	0.3	-
L-Piping	54.5	5.8	87.3	147.6	0.3	3.0
M-Steel	8.2	4.1	-	12.3	0.2	-
N-Insulation	-	-	9.0	9.0	-	0.3
P-Electrical	26.6	15.5	-	42.1	0.8	-
Q-Concrete Work	1.8	7.6	-	9.4	0.4	-
R-Buildings	-	-	-	-	-	-
S-Site Work	1.7	4.5	-	6.2	0.3	-
X-Painting	-	-	-	-	-	-
SUBTOTAL	105.1	43.1	96.9	245.1	2.3	3.3

TOTAL DIRECT COSTS	114.3	50.7	96.9	261.9	2.7	3.3
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H.O. ENGINEERING		UNIT RATES AND RATIO ANALYSIS		Col B A ÷ B	
Other Direct Material & S/C \$	202	Major Equipment Material & S/C \$	9.2	21.96	
Lineal Feet of Pipe	1142 LF	No. Pieces of Equipment	2	571	
Number of Spools	27	No. Pieces of Equipment	2	13.5	
Cubic Yards of Concrete	12 CY	No. Pieces of Equipment	2	6	
Lin. Ft. Wire (P31 & P32)	6400 LF	Connected Horsepower	-	-	
Total Piping Manhours	3282	Lineal Feet of Pipe	1142	2.88	
Peak Manual Manpower	15 (EST.)	Area in Battery Limits (SF)	NEGL	-	
Job Overall Labor Productivity	1.63				

QUANTITY AND MANHOUR DETAIL				
Item	Quantity	Bechtel & S/C Manhours	Unit Manhours	
MAJOR EQUIPMENT				
Columns/Vessels	EA	-	-	
Tanks	EA	-	-	
Exchangers	EA	-	-	
Fired Heaters	EA	-	-	
Pumps	2 EA	405	202/EA	
Compressors	EA	-	-	
Special Equipment	EA	-	-	
Total Major Equip.	2 EA	-	-	
INSTRUMENTS (TOT.)	9 EA	287	31.88/EA	
Field Mounted Instr.	9 EA	114	12.6/EA	
Panel Instruments	EA	-	-	
Control Valves	EA	-	-	
Package Control Syst.	EA	-	-	
PIPING				
2" & Under CS	556 LF	693	1.25/LF	
2 1/2" - 6" St. Run CS	LF	-	-	
8" - 12" St. Run CS	LF	-	-	
14" - 24" St. Run CS	0 LF	-	-	
26" & Over St. Run CS	LF	-	-	
2 1/2" - 6" Spools CS	LF	-	-	
8" - 12" Spools CS	LF	-	-	
14" - 24" Spools CS	586 LF	2549	4.35/LF	
26" & Over Spools CS	LF	-	-	
Total A/G CS	1,142 LF	3,242	2.84/LF	
Underground Pipe	LF	-	-	
Specialty Pipe	LF	-	-	
CS Valves (2 1/2" & Larger)	EA	-	-	
Alloy Pipe	LF	-	-	
Steam Tracing	LF	-	-	
Hangers/Supports	INCL. EA	-	-	
Test/Inspect	1,142 LF	40	0.035/LF	
Material Handling	(DISTRIBS)	-	-	
STEEL				
Structural Steel	T	-	-	
Platforms, Ladders	T	-	-	
Other Steel	5 T	209	41.8/TON	
Total Steel	5 T	209	41.8/TON	
INSULATION				
Pipe Ins.	791 ELF	254	0.32	
Equipment Insul.	- SF	-	-	
Fireproofing	- SF	-	-	
ELECTRICAL (COMPOSITE ACCT.)				
Equipment	7 EA	-	-	
A/G Conduit	1,706 LF	-	-	
U/G Conduit	- LF	-	-	
Wire & Cable	6400 LF	-	-	
Connections	56 EA	-	-	
Elect. Ht. Tracing	500 LF	-	-	
Cable Tray	- LF	793	TOTAL	
CONCRETE WORK (COMPOSITE ACCT.)				
Formwork	INCL SF	-	-	
Rebar	INCL T	-	-	
Concrete	12 CY	-	-	
Total O Acct	12 CY	438	36.5/CY	
BUILDINGS				
-	SF	-	-	
SITE WORK				
Excavation	60 CY	243	4.05/CY	
Backfill	50 CY	34	0.68/CY	
Sewers/Drains	- LF	-	-	
PAINTING				
-	SF	-	-	

NOTES: SMALL UNIT LOCATED NORTH OF
 PLOT 16 CONSISTING OF 2 PUMPS, A STEEL
 PIPE RACK COMING FROM PLOT 16, AND
 ASSOCIATED PIPING. APPROX. 400-500 MHRS
 SPENT TAPPING INTO 2 EXISTING TANKS.

PLANT SUMMARY

PREPARED BY M. MILLER

PHR 1.3-1

PLANT SUMMARY
Dollars & Manhours in Thousands

PLANT NUMBER 32 PAGE 2
DESCRIPTION COOLING TOWER
CAPACITY 2,500 GPM (Flow @ 100° F)

JOB NO 14053 CONST. DATES 10/80 TO 4/82
JOB DESCRIPTION RRMP
CLIENT MARATHON OIL COMPANY
LOCATION ROBINSON, ILLINOIS

OVERALL SUMMARY	COSTS				MANHOURS	
	Material	Labor	S/C	Total	Bechtel	S/C
MAJOR EQUIPMENT						
C--Columns & Vessels	-	-	-	-	-	-
D--Tanks	30.8	.9	0.3	32.0	-	-
E--Exchangers	.8	-	216.0	216.8	-	2.5
F--Fired Heaters	-	-	-	-	-	-
G--Pumps	117.5	32.0	-	149.5	1.7	-
K--Compressors	-	-	-	-	-	-
T--Special Equipmt.	129.8	3.4	6.6	139.8	0.2	0.2
SUBTOTAL	278.9	36.3	222.9	538.1	1.9	2.7
OTHER DIRECTS						
J--Instruments	78.5	2.6	24.3	105.4	.1	0.8
L--Piping	132.5	98.3	271.7	502.5	4.7	9.3
M--Steel	37.7	31.7	-	69.4	1.6	-
N--Insulation	-	-	22.9	22.9	-	0.8
P--Electrical	106.3	113.9	-	220.2	5.9	-
Q--Concrete Work	128.8	254.8	-	383.6	14.7	-
R--Buildings	8.1	22.2	13.9	44.2	1.3	0.2
S--Site Work	94.8	182.9	-	277.7	11.2	-
X--Painting	-	-	-	-	-	-
SUBTOTAL	586.7	706.4	332.8	1625.9	39.5	11.1

TOTAL DIRECT COSTS	865.6	742.7	555.7	2164.0	41.4	13.8
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H.O. ENGINEERING						
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	Col A	UNIT RATES AND RATIO ANALYSIS	Col B	A ÷ B
Other Direct Material & S/C \$	919.5	Major Equipment Material & S/C \$	501.8	1.83
Lineal Feet of Pipe	5062	No. Pieces of Equipment	15	337
Number of Spools	54	No. Pieces of Equipment	15	3.6
Cubic Yards of Concrete	685	No. Pieces of Equipment	15	45.7
Lin. Ft. Wire (P31 & P32)	28270	Connected Horsepower	550	51.4
Total Piping Manhours	14006	Lineal Feet of Pipe	5062	2.77
Peak Manual Manpower	N/A	Area in Battery Limits (SF)		
Job Overall Labor Productivity	1.63			

QUANTITY AND MANHOUR DETAIL				
Item	Quantity	Bechtel & S/C Manhours	Unit	Manhours
MAJOR EQUIPMENT				
Columns/Vessels	EA			
Tanks	3 EA	66		22
Exchangers	1 EA	2502		2502
Fired Heaters	EA			
Pumps	3 EA	1696		565
Compressors	EA			
Special Equipment	8 EA	390		48.8
Total Major Equipmt.	15 EA			
INSTRUMENTS				
Field Mounted Instr.	53 EA	225		4.25
Panel Instruments	- EA	-		-
Control Valves	EA			
Package Control Syst.	3 EA	98		32.7
PIPING				
2" & Under CS	1742 LF	3597		2.06
2 1/2"-6" St. Run CS	LF			
8"-12" St. Run CS	LF			
14"-24" St. Run CS	LF			
26" & Over St. Run CS	LF			
2 1/2" - 6" Spools CS	LF			
8" - 12" Spools CS	1120 LF	5502		4.91
14" - 24" Spools CS	LF			
26" & Over Spools CS	LF			
Total A/G CS	2862 LF	9099		3.18
Underground Pipe	2200 LF	4346		1.98
Speciality Pipe	- LF	-		-
CS Valves (2 1/2" & Larger)	EA			
Alloy Pipe	- LF	-		-
Steam Tracing	350 LF	417		1.19
Hangers/Supports	EA	WITH PIPING		
Test/Inspect	1796 LF	144		.08
Material Handling		N/A		
STEEL				
Structural Steel	T			
Platforms, Ladders	T			
Other Steel	22.3 T	1630		73.1
Total Steel	22.3 T	1630		73.1
INSULATION				
Pipe Ins. --- Ftg. Fact Avg. P	1514 ELF	681		0.45
Equipment Insul.	141 SF	129		0.92
Fireproofing	- SF	-		-
ELECTRICAL				
Equipment	84 EA	849		10.1
A/G Conduit	7000 LF	2955		.42
U/G Conduit	320 LF	46		.14
Wire & Cable	33895 LF	1333		.039
Connections	354 EA	283		.80
Elect. Mt. Tracing	1600 LF	383		.24
Cable Tray	- LF	-		-
CONCRETE WORK				
Formwork	12071 SF	8345		.69
Rebar	32.3 T	2935		90.9
Concrete	685 CY	3100		4.53
Total Q Acct	701 CY	14718		21.0
BUILDINGS				
	684 SF	1545		2.26
SITE WORK				
Excavation	3088 CY	3368		1.09
Backfill	2958 CY	3267		1.10
Sewers/Drains	976 LF	3339		3.42
PAINTING	- SF	-		-

NOTES: EXCHANGER 32E-4 COOLING
TOWER ERECTED BY B.A.
FRITCHARD, SUBCONTRACTOR.
FOUNDATION, PIPING, AND SITE-
WORK BY BECHTEL.

PLANT SUMMARY

PREPARED BY B. HADDADWAY

PHR 1.3-1

PLANT SUMMARY
Dollars & Manhours In Thousands

PLANT NUMBER 99 PAGE 1
DESCRIPTION MISC. OFFPLOT PLANTS
CAPACITY N/A

JOB NO 14053 CONST. DATES 10/80 TO 4/82
JOB DESCRIPTION RAMP
CLIENT MARATHON OIL COMPANY
LOCATION ROBINSON, ILLINOIS

OVERALL SUMMARY	COSTS				MANHOURS	
	Material	Labor	S/C	Total	Bechtel	S/C
MAJOR EQUIPMENT						
C--Columns & Vessels					-	
D--Tanks					-	
E--Exchangers					-	
F--Fired Heaters					-	
G--Pumps					-	
K--Compressors	4.0	-	-	4.0	-	-
T--Special Equip.	142.7	.9	1.1	144.7	-	0.1
SUBTOTAL	146.7	.9	1.1	148.7	-	0.1
OTHER DIRECTS						
J--Instruments	44.1	4.2	3.1	51.4	.2	0.1
L--Piping	62.4	16.0	63.4	141.8	.8	2.2
M--Steel		-	-	-	-	-
N--Insulation		-	28.8	28.8	-	1.1
P--Electrical		-	-	-	-	-
Q--Concrete Work		-	-	-	-	-
R--Buildings		-	-	-	-	-
S--Site Work		3.1	-	3.1	.2	-
X--Painting		-	-	-	-	-
SUBTOTAL	106.5	23.3	95.3	225.1	1.2	3.4

TOTAL DIRECT COSTS	253.2	24.2	96.4	373.8	1.2	3.5
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H.O. ENGINEERING						
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Col A		UNIT RATES AND RATIO ANALYSIS		Col B	A ÷ B
Other Direct Material & S/C \$	201.8	Major Equipment Material & S/C \$	147.8	1.37	
Lineal Feet of Pipe	1288	No. Pieces of Equipment	1	1288	
Number of Spools	36	No. Pieces of Equipment	1	36	
Cubic Yards of Concrete	-	No. Pieces of Equipment	1	-	
Lin. Ft. Wire (P31 & P32)	-	Connected Horsepower	N/A	-	
Total Piping Manhours	3014	Lineal Feet of Pipe	1288	2.34	
Peak Manual Manpower	N/A	Area in Battery Limits (SF)			
Job Overall Labor Productivity	1.63				

QUANTITY AND MANHOUR DETAIL				
Item	Quantity	Bechtel & S/C Manhours	Unit Manhours	
MAJOR EQUIPMENT				
Columns/Vessels	EA			
Tanks	EA			
Exchangers	EA			
Fired Heaters	EA			
Pumps	EA			
Compressors	EA			
Special Equipment	1 EA	79	79	
Total Major Equip.	1 EA			
INSTRUMENTS				
Field Mounted Instr.	31 EA	310	10.0	
Panel Instruments	- EA	125	4.03	
Control Valves	EA			
Package Control Syst.	- EA	-	-	
PIPING				
2" & Under CS	406 LF	803	1.98	
2 1/2"-6" St. Run CS	LF			
8"-12" St. Run CS	LF			
14"-24" St. Run CS	LF			
26" & Over St. Run CS	LF			
2 1/2" - 6" Spools CS	LF			
8" - 12" Spools CS	882 LF	2205	2.50	
14" - 24" Spools CS	LF			
26" & Over Spools CS	LF			
Total A/G CS	1288 LF	3008	2.34	
Underground Pipe	LF			
Specialty Pipes	LF			
CS Valves (2 1/2" & Larger)	EA			
Alloy Pipe	LF			
Steam Tracing	LF			
Hangers/Supports	EA	WITH PIPING		
Test/Inspect	186 LF	6	.03	
Material Handling		N/A		
STEEL				
Structural Steel	T			
Platforms, Ladders	T			
Other Steel	T			
Total Steel	- T	-	-	
INSULATION				
Pipe Ins. --- Ftg. Fact Avg. φ	681 ELF	306	0.45	
Equipment Insul.	742 SF	405	0.55	
Fireproofing (EQUIP)	- SF	-	-	
ELECTRICAL				
Equipment	EA			
A/G Conduit	LF			
U/G Conduit	LF			
Wire & Cable	LF			
Connections	EA			
Elect. Ht. Tracing	LF			
Cable Tray	LF			
CONCRETE WORK				
Formwork	SF			
Rebar	T			
Concrete	CY			
Total Q Acct	CY			
BUILDINGS				
	SF			
SITE WORK				
Excavation	CY			
Backfill	CY			
Sewers/Drains	90 LF	189	2.10	
PAINTING	SF			

NOTES: PLANT 99 CONSISTS OF MISC. INSTRUMENTATION AND PIPING FROM PLANTS 1, 2, 7, 8, 20, 11

PLANT SUMMARY

PREPARED BY B. HADDAWAY

PHR 1.3-1

PLANT SUMMARY
Dollars & Manhours In Thousands

JOB NO 14053 CONST. DATES 10/80 TO 4/82
JOB DESCRIPTION RAMP
CLIENT MARATHON OIL COMPANY
LOCATION ROBINSON, ILLINOIS

PLANT NUMBER 50 PAGE 11
DESCRIPTION TPC - 2000
CONSTRUCTION
CONSTRUCTION
CAPACITY 100

OVERALL SUMMARY	COSTS				MANHOURS	
	Material	Labor	S/C	Total	Bechtel	S/C
MAJOR EQUIPMENT						
C-Columns & Vessels					-	
D-Tanks					-	
E-Exchangers					-	
F-Fired Heaters					-	
G-Pumps					-	
K-Compressors					-	
T-Special Equip.					-	
SUBTOTAL					-	
OTHER DIRECTS						
J-Instruments	4948.3	204.9	-	5153.2	9.9	-
L-Piping	46.4	10.6	-	57.0	.5	-
M-Steel	37.5	26.1	-	63.6	1.3	-
N-Insulation	.7	-	184.9	185.6	-	5.9
P-Electrical	1740.0	2396.0	39.9	4175.9	123.0	0.9
Q-Concrete Work	6.9	24.0	-	30.9	1.4	-
R-Buildings	3.1	30.8	480.1	514.0	1.8	6.4
S-Site Work	.8	18.0	-	18.8	1.1	-
X-Painting	.3	-	-	0.3	-	-
SUBTOTAL	6784.0	2710.4	704.9	10199.3	139.0	13.2

TOTAL DIRECT COSTS	6784.0	2710.4	704.9	10199.3	139.0	13.2
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H.O. ENGINEERING						
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	Col A	UNIT RATES AND RATIO ANALYSIS		Col B	A ÷ B
Other Direct Material & S/C \$	7488.9			-	-
Lineal Feet of Pipe				-	-
Number of Spools				-	-
Cubic Yards of Concrete	36			-	-
Lin. Ft. Wire (P31 & P32)	105325			-	-
Total Piping Manhours	506			-	-
Peak Manual Manpower	N/A			-	-
Job Overall Labor Productivity	1.63			-	-
Major Equipment Material & S/C \$				-	-
No. Pieces of Equipment				-	-
No. Pieces of Equipment				-	-
No. Pieces of Equipment				-	-
Connected Horsepower				-	-
Lineal Feet of Pipe				-	-
Area in Battery Limits (SF)				-	-

QUANTITY AND MANHOUR DETAIL						
Item	Quantity	Bechtel & S/C Manhours	Unit Manhours	Item	Quantity	Bechtel & S/C Manhours
MAJOR EQUIPMENT						
Columns/Vessels	EA			STEEL		
Tanks	BBL			Structural Steel	T	
Exchangers	EA			Platforms, Ladders	T	
Fired Heaters	EA			Other Steel M-40	22 T	1341
Pumps	EA			Total Steel M-40	22 T	1341
Compressors	BHP			INSULATION		
Special Equipment	EA			Pipe Ins. - Ftg. Fact Avg. 9	16710 ELF	5944
Total Major Equip.	EA			Equipment Insul.	- SF	-
INSTRUMENTS						
Field Mounted Instr.	287 EA	9843	34.30	Fireproofing (EQUIP)	- SF	-
Panel Instruments	EA			ELECTRICAL		
Control Valves	EA			Equipment	619 EA	11038
Package Control Syst.	EA			A/G Conduit	90018 LF	52408
PIPING						
2" & Under CS	- LF	11		U/G Conduit	5390 LF	1528
2 1/2" - 6" St. Run CS	LF			Wire & Cable	415627 LF	22613
8" - 12" St. Run CS	LF			Connections	25034 EA	13709
14" - 24" St. Run CS	LF			Elect. Ht. Tracing	- LF	15
26" & Over St. Run CS	LF			Cable Tray	12329 LF	18624
2 1/2" - 6" Spools CS	LF			CONCRETE WORK		
8" - 12" Spools CS	LF			Formwork	SF	
14" - 24" Spools CS	LF			Rebar	T	
26" & Over Spools CS	LF			Concrete	CY	
Total A/G CS	LF	11		Total Q Acct	149 CY	902
Underground Pipe	LF			BUILDINGS		
Specialty Pipe	LF			REVAHPSF	8168	
CS Valves (2 1/2" & Larger)	EA			SITE WORK		
Alloy Pipe	LF			Excavation	165 CY	837
Steam Tracing	874 LF	495	.57	Backfill	107 CY	264
Hangers/Supports	EA			Sewers/Drains	- LF	-
Test/Inspect	LF			PAINING	- SF	-
Material Handling				NOTES:		

PLANT SUMMARY

PREPARED BY BH / PLL

PHR 1.3-1

JOB NO 14053 CONST. DATES 10/80 TO 4/82
 JOB DESCRIPTION RRMP
 CLIENT MARATHON OIL COMPANY
 LOCATION ROBINSON, ILLINOIS

PLANT SUMMARY
 Dollars & Manhours In Thousands

PAGE 1
 PLANT NUMBER 60
 DESCRIPTION TDC 2000
CONVERSION
 CAPACITY N/A

OVERALL SUMMARY	COSTS				MANHOURS	
	Material	Labor	S/C	Total	Bechtel	S/C
MAJOR EQUIPMENT						
C-Columns & Vessels					-	
D-Tanks					-	
E-Exchangers					-	
F-Fired Heaters					-	
G-Pumps					-	
K-Compressors					-	
T-Special Equipt.					-	
SUBTOTAL					-	
OTHER DIRECTS						
J-Instruments		559.5	-	559.5	26.9	-
L-Piping		24.6	-	24.6	1.2	-
M-Steel	INCLUDED	-			-	
N-Insulation	IN	-			-	
P-Electrical	PLANT	249.5	-	249.5	12.8	-
Q-Concrete Work	50	-	-	-	-	-
R-Buildings		-	-	-	-	-
S-Site Work		-	-	-	-	-
X-Painting		-	-	-	-	-
SUBTOTAL	-	833.6	-	833.6	40.9	-

TOTAL DIRECT COSTS		833.6		833.6	40.9	-
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H.O. ENGINEERING						
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Col A	UNIT RATES AND RATIO ANALYSIS		Col B	A ÷ B
Other Direct Material & S/C \$	INCLUDED IN P.L.T. 50		Major Equipment Material & S/C \$	
Lineal Feet of Pipe			No. Pieces of Equipment	
Number of Spools			No. Pieces of Equipment	
Cubic Yards of Concrete			No. Pieces of Equipment	
Lin. Ft. Wire (P31 & P32)			Connected Horsepower	
Total Piping Manhours			Lineal Feet of Pipe	
Peak Manual Manpower	N/A		Area in Battery Limits (SF)	
Job Overall Labor Productivity	1.63			

QUANTITY AND MANHOUR DETAIL				
Item	Quantity	Bechtel & S/C Manhours	Unit Manhours	
MAJOR EQUIPMENT				
Columns/Vessels	EA TON			
Tanks	EA BBL			
Exchangers	EA			
Fired Heaters	EA BTU			
Pumps	EA BHP			
Compressors	EA BHP			
Special Equipment	EA			
Total Major Equipt.	EA			
INSTRUMENTS	1675 EA	26881	16.05	
Field Mounted Instr.	1675 EA	11705	6.99	
Panel Instruments	EA			
Control Valves	EA			
Package Control Syst.	EA			
PIPING				
2" & Under CS	LF			
2 1/2" - 6" St. Run CS	LF			
8" - 12" St. Run CS	LF			
14" - 24" St. Run CS	LF			
26" & Over St. Run CS	LF			
2 1/2" - 6" Spools CS	LF			
8" - 12" Spools CS	LF			
14" - 24" Spools CS	LF			
26" & Over Spools CS	LF			
Total A/G CS	LF			
Underground Pipe	LF			
Specialty Pipe	LF			
CS Valves (2 1/2" & Larger)	EA			
Alloy Pipe	LF			
Steam Tracing	4895 LF	1172	.24	
Hangers/Supports	EA			
Test/Inspect	LF			
Material Handling				
STEEL				
Structural Steel	T			
Platforms, Ladders	T			
Other Steel	T			
Total Steel	T			
INSULATION				
Pipe Ins. Ftg. Fact Avg. Φ	ELF			
Equipment Insul.	SF			
Fireproofing	SF			
ELECTRICAL				
Equipment	EA			
A/G Conduit	11161 LF	4464	.40	
U/G Conduit	- LF	-	-	
Wire & Cable	15547 LF	916	.059	
Connections	17826 EA	5938	.33	
Elect. Ht. Tracing	40 LF	32	.80	
Cable Tray	- LF	-	-	
CONCRETE WORK				
Formwork	SF			
Rebar	T			
Concrete	CY			
Total Q Acct	CY			
BUILDINGS				
	SF			
SITE WORK				
Excavation	CY			
Backfill	CY			
Sewers/Drains	LF			
PAINTING				
	SF			
NOTES:				

PLANT SUMMARY

PREPARED BY D. LEE / B. HADDADWAY PHR 1.3-1

CONSTR. DATES 10/80 TO 4/82

CLIENT MARATHON OIL COMPANY

PREPARED BY _____

"C" - COLUMNS & VESSELS

JOB LOCATION ROBINSON, ILLINOIS

PLT. NO.	EQUIP NO	SERVICE	ASTM SPEC.	Diameter FT-IN	HEIGHT - FEET		Shell Thickness Inches	WEIGHT - TONS		FINAL MANHOURS		DIRECT COST \$ 1000	
					Tangent to Tangent	OVERALL		Bare - Excluding Internals	AS LIFTED	Bechtel	S/C	Bechtel Matl.	S/C L & M
9	C-9	MEA ABSORBER	SA-2850	5'0"	54'-2"	62'-3"	7/16"	10.5	14.4	291		48.9	
	C-10	FEED GAS KO DRUM						7.5	7.7	158		23.6	
	C-13	CARB BED ABSORB						5.5	6.1	113		27.8	
	C-16	WASH COLUMN						3.5	4.1	82		21.5	
	C-17	COMPR KO DRUM						1.5	1.5	54		8.1	
	C-18	STM CONDENSATE POT						0.5	0.5	35		5.3	
	C-9	PROC COL TRAYS							INCL			4.3	
	C-16	PROC COL TRAYS							INCL			2.1	
		FIELD PURCHASES										0.5	
Y		SIT PLANT 9							34.3 ^T	733	-	142.1	-
21	C-2	FLASH DRUM						2.3	2.3 ^T	59	-	11.4	
ALL OTHERS								() EA)					
TOTALS PLANT "A" & "Z1 C"								(7) EA)		792	-	153.5	-

"C" ACCOUNT - COLUMNS & VESSELS

PHR 1.2-2

PAGE 5

GARRARD 000000515

CONSTR. DATES 10/80 TO 4/82

CLIENT MARATHON OIL COMPANY

PREPARED BY _____

"C" - COLUMNS & VESSELS

JOB LOCATION ROBINSON, ILLINOIS

PLT. NO.	EQUIP. NO	SERVICE	ASTM SPEC.	Diameter FT-IN	HEIGHT - FEET		Shell Thickness Inches	WEIGHT - TONS		FINAL MANHOURS		DIRECT COST \$1000		
					Tangent to Tangent	OVERALL		Bare - Excluding Internals	AS LIFTED	Bechtel	S/C	Bechtel Matl.	S/C L & M	
16	C-1	STRIPPER	SA-515-70	9'6" / 12'0"	96'-0"	121'-3"	3/4" / 1" / 1 1/2"	71	86	1840		207.4		
	C-2	HYDRO FEED SURG ^{DRM}	SA-515-70	12'-0"	35'-0"	51'-0"	3/4"	31	31	663		59.6		
	C-4	HYDRO PRDT SEPR	SA-516-70	8'6"	25'-0"	-	2 3/16"	44	44	942		127.8		
	C-5	RECYCLE COMP ^{DRM} SUCTION						2.6	2.7	40		9.9		
	C-6	HYDRO FLASH DRM	SA-515-70	9'-0"	25'-0"	34'-11"	1 1/8"	23	23	492		47.8		
	C-7	STRPR OH RECVR						4.6	4.6	100		16.9		
	C-8	NAPTHA REACTOR	SA-387-11	9'0"	18'-0"	24'-5 1/2"	2.29"	55	55	1177		220.1		
	C-9	PLATFRM REACTR	SA-387-11	8'0" / 10'0" 8'6" / 12'0"	-	187'-9"	1.51" / 1.71" 1.51" / 2.08"	273	300	7274	5927	1819.5	548.1	
	C-10	PRODS SEP	SA-515-70	10'-6"	20'-0"	43'-5"	3/4"	22	22	471		53.2		
	C-11	1ST STAGE COMP. SUCTION ^{DRM}						4.2	4.3	92		16.3		
	C-12	INTERSTG RCVR	SA-515-70	10'-6"	16'-0"	24'-6"	1 1/2"	27	27.3	584		63.1		
	C-14	HIGH PRES RCVR	SA-515-70	10'-6"	15'-5 5/8"	24'-5 5/8"	3 1/8"	51.3	51.3	1098		117.6		
	C-15	DEBUTANIZER	SA-515-70	7'0" / 9'0"	70'-6"	97'-1"	7/8" / 1 1/8"	63	76	1626		141.2		
	C-16	DEBUT RECIEVER						5	5	107		15.6		
	C-19	INTERMITTANT BLOWDOWN ^{DRM}						1.3	1.3	40		6.3		
ALL OTHERS								(EA)						
TOTALS								(15 EA)			16546	5927	2922.3	548.1

PAGE 2

"C" ACCOUNT - COLUMNS & VESSELS

PHR 1.2-2

JOB NO. & TITLE ROBINSON REFINERY MODERNIZATIONCONSTR. DATES 10/80 TO 4/82CLIENT MARATHON OIL COMPANY

#14053

PREPARED BY _____

"C" - COLUMNS & VESSELSJOB LOCATION ROBINSON, ILLINOIS

PLT. NO.	EQUIP. NO.	SERVICE	ASTM SPEC.	Diameter FT-IN	HEIGHT - FEET		Shell Thickness Inches	WEIGHT - TONS		FINAL MANHOURS		DIRECT COST \$1000	
					Tangent to Tangent	OVERALL		Bare - Excluding Internals	AS LIFTED	Bechtel	S/C	Bechtel Matl.	S/C L & M
16	C-20	CONTINUOUS RD DEM						1.3	1.3	16		6.7	
	C-21	CAT COLLECTOR						2.1	2.1	40		48.6	
	C-22	LOCK HOPPER #1						0.8	0.8	24		6.2	
	C-23	LOCK ENGAGER #1						0.8	0.9	24		6.3	
	C-24	DISENGAGING HOPPER						3.4	3.4	40		16.5	
	C-25	CAT REGEN TOWER	B-168	8'0" / 5'6"	-	53' 5"	3/4"	23.6	23.6	505		609.4	
	C-27	SURGE HOPPER						8.8	8.8	188		36.2	
	C-28	LOCK HOPPER #2						1.9	1.9	32		6.2	
	C-29	LOCK ENGAGER #2						1.0	1.1	24		7.5	
	C-30	CAT ADD'L FUNNEL	NOW 16 D-B, SEE "D" ACCT									-	
	C-31	LOCK HOPPER						0.2	0.2	-	16	3.7	0.4
	C-32	VENT DRUM #1						0.2	0.2	16		1.8	
	C-33	VENT DRUM #2						0.2	0.2	16		1.8	
	C-34	VENT DRUM #3						0.2	0.2	16		1.8	
	C-35	VENT DRUM #4						0.2	0.2	16		1.8	
ALL OTHERS							() EA						
TOTALS							(14) EA			957	16	754.5	0.4

THIS PAGE

"C" ACCOUNT - COLUMNS & VESSELS

PHR 1.2-2

PAGE 4

GARRARD 00000517

JOB NO. & TITLE ROBINSON REFINERY MODERNIZATIONCONSTR. DATES 10/80 TO 4/82CLIENT MARATHON OIL COMPANY

#14053

PREPARED BY _____

"C" - COLUMNS & VESSELSJOB LOCATION ROBINSON, ILLINOIS

PLT. NO.	EQUIP NO	SERVICE	ASTM SPEC.	Diameter FT-IN	HEIGHT - FEET		Shell Thickness Inches	WEIGHT - TONS		FINAL MANHOURS		DIRECT COST \$ 1000	
					Tangent to Tangent	OVERALL		Bare - Excluding Internals	AS LIFTED	Bechtel	S/C	Bechtel Matl.	S/C L & M
16	C-36	EDC. INJECT TANK						2.6	2.6	40		11.4	
	C-37	NET GAS WASH TWR						12.5	12.7	271		42.2	
	C-41	DUST COLLECTORS						0.9	0.9	16		9.8	
	C-42	DEGASSING DRUM						0.7	0.7	16		6.5	
	C-43	FUEL GAS KO DRM						1.9	1.9	32		13.5	
	C-44	HC CONDEST POT						1.3	1.3	32		9.4	
	C-48	FLASH DRUM						1.3	1.3	32		9.4	
	C-49	BEW DEARATOR						6.1	6.1	130		26.9	
	C-50	ATTEMTR STRIPPER						1.3	1.3	32		6.2	
	C-1	TRAYS							INCL.			23.7	
	C-15	TRAYS							INCL.			15.3	
	C-8	BASKETS							INCL.			18.7	
	C-45	RECYCLE GAS COALESCER						0.2	0.2	16		3.5	
	C-46	BOOSTER GAS COALESCER						0.2	0.2	16		3.5	
	OTHER	FIELD PURCHASES (RIGGING EQUIPMENT)										22.3	
SIT THIS PAGE										633	-	222.3	-
ALL OTHERS							(____) EA)						
TOTALS	TOTAL PLANT "16 C"					(40) EA)		807.6 ^T	18136	5943	3899.1	548.5	

"C" ACCOUNT - COLUMNS & VESSELS

PHR 1.2.2

PAGE 5

GARRARD 00000518

JOB NO. & TITLE ROBINSON REFINERY MODERNIZATIONCONSTR. DATES 10/80 TO 4/82CLIENT MARATHON OIL COMPANY

#14053

PREPARED BY _____

"C" - COLUMNS & VESSELSJOB LOCATION ROBINSON, ILLINOIS

PLT. NO.	EQUIP. NO.	SERVICE	ASTM SPEC.	Diameter FT-IN	HEIGHT - FEET		Shell Thickness Inches	WEIGHT - TONS		FINAL MANHOURS		DIRECT COST \$1000	
					Tangent to Tangent	OVERALL		Bare - Excluding Internals	AS LIFTED	Bechtel	S/C	Bechtel Matl.	S/C L & M
23	C-1	FEED COMINGLER	SA-515-70	11'-0"	33'-0"	40'-4"	1 1/16"	39.4	103.2	501		71.0	
	C-2	ABSORBER	SA-515-70	5'-0"	80'-0"	163'-4"	9/16"	50.3		702	8	61.2	0.2
	C-3	DE-ETHANIZER	SA-515-70	7'-0"	64'-9"		3/4"	50.3	61.9	735	8	61.2	0.3
	C-4	SEC ABSORBER						14.6	16.1	217	8	25.8	0.2
	C-5	PRESATURATOR						14.6	16.1	217	8	25.8	0.3
	C-6	DEBUTANIZER	SA-515-70	7'-0" / 9'-0"	92'-9"	111'-11"	5/8" / 3/4"	48.1	63.3	820	10	120.4	0.3
	C-7	DEBUT OVHD REC						9.3	9.3	150		23.1	
	C-8	DEPROPANIZER	SA-515-70	5'-0" / 6'-6"	89'-0"	108'-6"	3/4" / 5/16"	40.4	45.6	655	8	97.8	0.2
	C-9	DEPRP OVHD REC						6.8	6.8	89		20.1	
	C-10	DETHNER SOUR						0.5	0.5	77		3.8	
	C-11	T-T CONDENS POT						1.3	1.3	81		9.0	
	C-12	FUEL GAS KO DR						0.6	0.6	77		7.5	
	C-13	STM CONDENS POT						0.5	0.5	77		5.2	
	C-14	STM CONDENS POT						0.5	0.5	77		5.4	
	C-15	STRP KO DRUM							-			4.3	
TRAYS & INTERNALS									-			51.3	
MISCELL FIELD PURCHASES									-			2.2	
ALL OTHERS								(____ EA)					
TOTALS	TOTAL PLANT "23C"					(15 EA)		325.7	4475	50		595.1	1.5

"C" ACCOUNT - COLUMNS & VESSELS

PHR 1.2-2

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GARRARD 00000519

CONSTR. DATES 10/80 TO 4/82

CLIENT MARATHON OIL COMPANY

PREPARED BY _____

"C" — COLUMNS & VESSELS

JOB LOCATION ROBINSON ILLINOIS

PLT. NO.	EQUIP NO	SERVICE	ASTM SPEC.	Diameter FT-IN	HEIGHT - FEET		Shell Thickness Inches	WEIGHT - TONS		FINAL MANHOURS		DIRECT COST \$ 1000	
					Tangent to Tangent	OVERALL		Bare - Excluding Internals	AS LIFTED	Bechtel	S/C	Bechtel Matl.	S/C L & M
28	C-1	PROP. COALSR						0.3	0.3	26		5.4	
	C-2	PROP. MEA TREATER						13.1	13.6	175		40.8	
	C-3	PRO CAU. WASH CL.						5.4	5.5	55		22.1	
	C-4	PROP. WTR, WS, COL						5.4	5.5	55		23.1	
	C-5	BUT. CAUS. WASH COL						10.2	10.5	108		33.8	
	C-6	BUTANE EXTRCTR						21.7	22.2	221		44.7	
	C-7	BUTANE SETTLER						15.0	15.0	131		31.2	
	C-2	PROC COL TRAYS							INCL.			1.5	
	C-6	COL TRAYS							INCL.			6.3	
		FIELD PURCHASES							-			0.8	
		S/T PLANT '28							72.6 ^T	771	-	209.7	-
29	C-1	REFORMER FEED SPLITTER (REWORK EXISTING VESSEL NOZZLES & INTERNAL PIPING)						-	-		1106		56.8
	C-2	O/H ACCUMULATOR						5.2	5.2 ^T	42		15.6	
	C-3	WATER DRAW OFF						-	-			WITH PIPING	
ALL OTHERS () EA													
TOTALS TOTAL PLANT "28" & "29C" (8) EA													
										813	1106	225.3	56.8

"C" ACCOUNT - COLUMNS & VESSELS

PHR 1.2-2

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GARRARD 000000520



**"C" - COLUMNS & VESSELS
TRAYS**

JOB NO. & TITLE ROBINSON REFINERY MODERNIZATION
CLIENT MARATHON OIL COMPANY #14053
JOB LOCATION ROBINSON ILLINOIS

CONST. DATES 10/80 TO 4/82
PREPARED BY C. JACKSON

EQUIP. No.	TYPE OF TRAY	ASTM SPECS		DIAM. FT-IN	No. TRAYS EACH DIAM.	AREA - SF		WEIGHT-TONS		FINAL MAN HOURS		DIRECT COST \$1000	
		Deck	Caps or Valves			Per Tray	Per Vessel	Per Tray	Per Vessel	Bechtel	S/C	Bechtel Matl.	S/C L&M
9C-9	SINGLE PASS VALVE	CS	410SS	5'-0"	20	15.9	318	.11	2.25			4.3	
9C-16	SINGLE PASS VALVE			3'-0"	10	3.9	38.9	.06	0.55			2.1	
16C-1	TWO PASS VALVE			9'-6"	31	43.5	1349	.48	14.7			23.1	
16C-8	DISTRIBUTOR BASKETS		316SS	-	56	-	-	-	0.85			18.7	
16C-15	SINGLE PASS / TWO VALVE / PASS		T410SS	7'-0" / 9'-0"	19 / 11	28.26 / 37.4	948	.202 / .386	8.1			14.9	
23C-2	TWO PASS VALVE		410SS	5'-0"	34	12.5	425.7	.14	4.75			6.6	
23C-3	TWO PASS VALVE			7'-0"	16	21.2	338.6	.29	4.6			9.9	
23C-4	SINGLE PASS VALVE			3'-0"	24	4.97	119.3	.044	1.05			3.4	
23C-6	TWO PASS VALVE			9'-0" / 7'-0"	18 / 14	45.5 / 31.4	1257.5	.367 / .253	10.15			20.0	
23C-8	TWO / SINGLE PASS / PASS VALVE			6'-6" / 5'-0"	20 / 18	22.3 / 15.3	721.4	.178 / .122	5.75			11.4	
28C-2	SINGLE PASS SIEVE		-	4'-0"	3	75	228	.092	.275			1.5	
28C-6	SINGLE PASS PERFORATED		-	5'-6"	7	20	140	.16	1.18			6.3	
16C-8 INTERNAL BASKETS (\$18700)												INCLUDED WITH COL. E VESSEL	
TOTALS													

"C" ACCOUNT - TRAYS

PHR 1.2-3

PAGE

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GARRARD 00000521



JOB NO. & TITLE # 14053 ROBINSON REFINERY
MODERNIZATION
CLIENT MARATHON OIL COMPANY
JOB LOCATION ROBINSON, ILLINOIS

CONST. DATES 10/80 TO 4/82
PREPARED BY C JACKSON

EQUIP. NO.	DESCRIPTION OF PACKING (TYPE - MATERIAL - SIZE)	VOLUME CF	WEIGHT TONS	FINAL MAN HOURS		DIRECT COST \$1000	
				Bechtel	S/C	Bechtel Matl.	S/C L&M
9C-13	ACTIVATED CHARCOAL - PITTSBURGH TYPE 5GL-8x30	360	5.4			SUPPLIED BY CLIENT	
16C-8	DENSTONE 100 - 1/8" Ø CATALYST SUPPORT	60				↓	
16C-8	DENSTONE 100 - 1/4" Ø CATALYST SUPPORT	60					
16C-8	DENSTONE 100 - 3/4" Ø CATALYST SUPPORT	95					
16C-37	INTALOX (2") PORCELAIN SADDLES	200					
28C-2	INTALOX (1 1/2") PORCELAIN SADDLES	335					
28C-3	1 1/2" PALL RINGS	65					
28C-4	INTALOX (1 1/2") PORCELAIN SADDLES	65					
28C-5	1 1/2" PALL RINGS	125				↓	
TOTALS	Includes Inert Packing, Catalysts and Chemicals When Furnished and/or Installed By Bechtel					-	

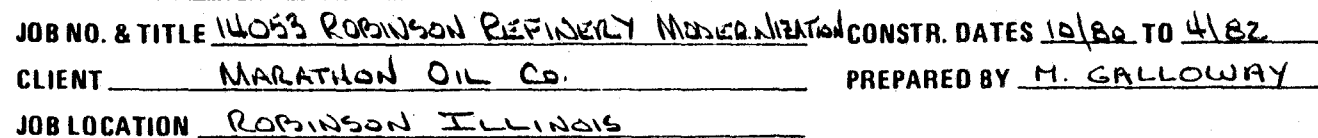
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"C" ACCOUNT - VESSEL PACKINGS

PHR 1.2-5

GARRARD 00000522



JOB LOCATION ROBINSON ILLINOIS

PAGE 10

PHR 1.2-7

GARRARD 00000523

CONSTR. DATES 10/80 TO 4/82

PREPARED BY M. Galloway

JOB LOCATION

SUMMARY OF EXCHANGERS	INSTALLED QUANTITIES	FINAL MANHOURS		DIRECT COST \$ 1000	
		Bechtel	S/C	Bechtel Matl.	S/C L & M
CARRY FORWARD FROM PHR <u>1.2-9</u> PAGE <u>12</u> PLANT 9	9 EA	<u>213</u>		245.7	
CARRY FORWARD FROM PHR <u> </u> PAGE <u>13/A</u> PLANT 16	46 EA	<u>10837</u>	<u>294</u>	3492.9	8.6
CARRY FORWARD FROM PHR <u> </u> PAGE <u>14/15</u> PLANT 23	17 EA	<u>1943</u>		618.7	
CARRY FORWARD FROM PHR <u> </u> PAGE <u>12</u> PLANT 28	2 EA	<u>34^v</u>	-	18.3	
CARRY FORWARD FROM PHR <u> </u> PAGE <u>14</u> PLANT 29	1 EA	<u>383^v</u>	-	53.7	
CARRY FORWARD FROM PHR <u>1.2-12</u> PAGE <u>18</u> PLANT 32	1 EA	-	2502	0.8	216.0
CARRY FORWARD FROM PHR <u> </u> PAGE <u> </u>	EA				
CARRY FORWARD FROM PHR <u> </u> PAGE <u> </u>	EA				
TOTALS	76 EA	13,410	2796	4430.1	224.6

PAGE

"E" ACCOUNT — EXCHANGERS

PHR 1.2-8

GARRARD 00000524



CLIENT _____

JOB LOCATION

PREPARED BY M. GALLOWAY

[illegible]

**JOB NO. & TITLE****CLIENT****JOB LOCATION**

CONSTR. DATES 10/80 TO 4/82

PREPARED BY M. GALLOWAY

PLT. NO.	EQUIP. NO.	SERVICE	S SHELLS	SHELL SIDE		TUBE SIDE		MMBTU HR PER SERVICE	SURFACE AREA SF		WEIGHT (TONS) PER SERVICE	FINAL MANHOURS		DIRECT COST \$ IG00	
				Material	Flange Rating	Material	Flange Rating		Per Shell	Per Service		Bechtel	S/C	Bechtel Matl.	S/C L & M
16	E-1A	FEED EFFLUENT	6	C-2WS CS	600# RF	TP321 CS	600# RF	116.0	2870	37240		440		827.9	
	E-1B	FEED EFFLUENT	6	C-2WS CS	600# RF	TP321 CS	600# RF					↓			
	E-2	STRIPPED FEED BTMS EXCHANGER	4									200		115.5	
	E-4	HYDRO PRODUCTS TRIM COOLER	1									80		34.2	
	E-6	STRIPPED OIL TRIM COOLER	1									80		18.1	
	E-7A	COMBINED FEED EFFLUENT	2	1/4 CR - 2 MSLC	300# RF	1 CR - 4 MSLC	300# RF	302	30316	60632		1954	294	884.9	2.10
	E-9A	REACTOR PRODUCTS TRIM COOLER	2	KILLED CS	150# RF	IN-HIB ADMIR	150# RF	8.5	4118	9236		300		121.2	
	E-11	INTERSTAGE RECEIVER COOLER	1	KILLED CS	300# RF	IN-HIB ADMIR	150# RF	2.84	3692	3692		80		64.5	
	E-13	H.I. PRESSURE RECEIVER COOLER	1	KILLED CS	600# RF	IN-HIB ADMIR	150# RF	3.34	4000	4000		80		83.5	
	E-14	DEBUTANIZER BOTTOMS	4	CS	300# RF	SA-214	300# RF	64.22	2153	8612		200		42.4	
	E-16	DEBUT. OIL TRIM COND.	1									71		42.7	
	E-18	DEBUT BTMS TRIM COOLER	1									70		20.5	
	E-20	RECYCLE GAS COOLER										70		4.6	
	E-22	LIFT GAS BLOWER SPILL BACK COOLER										32		1.4	
	E-2L	ALPIC DEARATOR ALPIC FEEDWATER EXCH.										80		5.7	
		ALL OTHERS							() EA						
		TOTALS							(33) EA			3737	294	2317.1	8.6

"E" ACCOUNT - SHELL & TUBE EXCHANGERS

PHR 1.2-9

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GARRARD 00000526



**"E" — AIR COOLED
TUBULAR EXCHANGERS**

JOB NO. & TITLE 14053 ROBINSON REFINERY MODERN

CLIENT MARATHON OIL CO.

JOB LOCATION ROBINSON, ILLINOIS

CONSTR. DATES 10/80 TO 4/82

PREPARED BY M. GAUDWAY

PLT. NO.	EQUIP. NO.	SERVICE	OVERALL DIMENSIONS		MOTORS		MMBTU HR	SURFACE AREA		WEIGHT TONS	FINAL MAN HOURS		DIRECT COST \$1000	
			L FT	W FT	No.	HP/EA		Bare SF	Extended ESF		Bechtel	S/C	Bechtel Matl.	S/C L & M
16	E-3	PRODUCTS CONDENSER	40	28	4	15	44.2	9808	211249	35	800		191.2	
16	E-5	STRIPPER O/H COND.	32	12	2	15	8.67	2189	42111	18	700		55.2	
16	E-8 ^{1/2}	REACTOR PRODUCTS COND.	40	56	8	20	64.3	17968	574652	32	1800		348.5	
16	E-15	DEBUTANIZER O/H COND.	40	28	4	15	15.2	5151	107411	21.5	800		112.4	
16	E-17	DEBUTANIZER BTMS COOLER	40	14	2	15	13.0	4049	84425	26	800		66.9	
16	E-21	REGENERATION COOLER	7	5	-	-	1.29	392	-	2	500		72.2	
16	E-10	NET GAS COMPRESSOR 1 ST STAGE INTER COOLER	40	14	2	20	9.46	2735	49676	40	700		47.1	
16	E-12	NET GAS COMPRESSOR 2 ND STAGE COOLER	40	14	↓	↓	6.58	2179	39573	↓	700		47.1	
		SIT PLANT 16									6800		940.6	
23	9A/16/14	DEBUTANIZER O/H CONDENSER	29	52	8	10	27.5	8174	17300	76	1100	-	209.5	
29	E-3	BOTTOMS COOLER	32	11	2	10	11.5	1529	32938	8	353	-	53.7	
ALL OTHERS											(____) EA			
TOTALS													1203.8	

Note: Under Each Item, Define Extent
Of Field Assembly Required.

THIS PAGE (14th)

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"E" ACCOUNT — AIR COOLED TUBULAR EXCHANGERS

**JOB NO. & TITLE**

CLIENT

JOB LOCATION

CONSTR. DATES 10/80 TO 4/82

PREPARED BY M. GALOWAY

PLT. NO.	EQUIP. NO.	SERVICE	S H E L L S	SHELL SIDE		TUBE SIDE		MMBTU HR PER SERVICE	SURFACE AREA SF		WEIGHT (TONS) PER SERVICE	FINAL MANHOOURS		DIRECT COST \$ 1000	
				Material	Flange Rating	Material	Flange Rating		Per Shell	Per Service		Bechtel	S/C	Bechtel Matl.	S/C L & M
23	E-1	CUMINGLER FEEDWATER COOLER	2					11.63				110		94.0	
	E-2	D-E ETHANIZER STM REBOILER	1					10.33				75		22.1	
	E-3	D-E ETHANIZER REBOILER	1					8.96				81		20.6	
	E-5	DEBUTANIZER PTMS COOLER	1					8.18				78		31.9	
	E-6	PRESSURATOR FEED COOLER	1					3.13				53		44.2	
	E-7	LEAN RICH SPONGE OIL EXCH	1									38		6.6	
	E-8	LEAN RICH OIL COOLER	1					2.61				38		15.3	
	E-10	DEBUT. OTH TRIM COOLER	1					5.62				65		35.6	
	E-11	DEPRDP PTMS FEED EXCH.	1					2.09				35		5.6	
	E-12	BUTANE PRODUCT COOLER	1					3.14				40		32.7	
	E-13	DEPRDP OTH CONDENSER	1	CS	300# RF	INHIB ADMIR	150# RF	13.6	4192	4192		117		73.5	
↓	E-14	DEPRDP REBOILER	1					15.35				113		26.5	
		ALL OTHERS								(— EA)					
TOTALS										(13 EA)		843	-	409.2	

THIS PAGE

"E" ACCOUNT - SHELL & TUBE EXCHANGERS

PHR 1.2-9

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GARRARD 00000528

JOB NO. & TITLE 14053 ROBINSON REFINERY MODERN, CONSTR. DATES 10/83 TO 4/82CLIENT MARATHON OIL CO.PREPARED BY M. GAUDINAY**"E" — SURFACE CONDENSER**JOB LOCATION ROBINSON, ILLINOIS

PLANT NO. <u>16</u> EQUIPMENT NO. <u>16E-19</u>	WEIGHT TONS	FINAL MAN HOURS		DIRECT COST \$1000	
		Bechtel	S/C	Bechtel Matl.	S/C L & M
BARE CONDENSER (ATTACH 8 1/2" x 11" SKETCH NEXT PAGE)	11	100		115.1	
GPM <u>2775</u> ; C.W. IN <u>90</u> °F, OUT <u>115</u> °F;					
ASTM SPEC: SHELL <u>CS</u> , TUBE SHEETS <u>NRB</u> ;					
SIZE: L <u>21'-2 1/4"</u> , W <u>4'-4"</u> , H <u>9'-11"</u>					
TUBES - INSTALLED IN SHOP/FIELD (CROSS OUT ONE).					
NUMBER <u>863</u> EA; O.D. <u>3/4"</u> IN; LENGTH <u>18</u> FT;					
GAGE <u>.375</u> ; ASTM SPEC <u>INHA ADMIR</u>					
TOTAL AREA <u>3220</u> S.F.					
ACCESSORY EQUIPMENT INCLUDED WITH CONDENSER PRICE:					
MAIN EJECTOR <u>1</u> EACH					
HOGGING EJECTOR TYPE <u>NOT REQUIRED</u> EACH					
C.W. PUMPS GPM/EACH _____, TDH _____, _____ EACH					
MOTORS FOR C.W. PUMPS HP/EA _____, RPM _____					
SEE 16G-11 A/B COND. PUMPS GPM/EACH _____, TDH _____, _____ EACH					
MOTORS FOR COND. PUMPS HP/EA _____, RPM _____					
TOTALS	11	100		115.1	

"E" ACCOUNT — SURFACE CONDENSER

PHR 1.2-11



"E"-HEAT EXCHANGERS

JOB NO. & TITLE

CLIENT

JOB LOCATION

CONSTR. DATES 10/80 TO 4/82

PREPARED BY M. GALLDWAY

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PHR 1.2-27

GARRARD 00000530

**MECHANICAL DRAFT****"E" — COOLING TOWER**JOB NO. & TITLE 14053 ROBINSON REFINERY MODERN.CLIENT MARATHON OIL CO.JOB LOCATION ROBINSON, ILLINOISCONSTR. DATES 10/80 TO 4/82PREPARED BY M. GRAWAY

	FINAL MAN HOURS		DIRECT COST \$1000	
	Bechtel	S/C	Bechtel Matl	S/C L & M
PLANT NO. <u>32</u> EQUIP. NO. <u>E-4</u> GPM <u>21200</u>			<u>0.8</u>	<u>216.0</u>
DUTY IN MMBTU/HR. <u>189</u> DESIGN WET BULB °F <u>78</u> (WINTER -20 SUMMER 110)				
WATER TEMP. IN °F <u>107.8</u> WATER TEMP. OUT °F <u>90</u>				
OUTSIDE DIMENSIONS: FOR 1 CELL TOTAL FOR <u> </u> CELLS				
WIDTH <u>294</u> FT <u>294</u> FT				
HEIGHT <u>28</u> FT <u>28</u> FT				
LENGTH <u>28</u> FT <u>112</u> FT				
FAN DRIVERS: <u>1</u> EACH/CELL				
<u>4</u> EACH/TOWER				
<u>49.8</u> HP/EACH				
MATERIALS OF CONSTRUCTION:				
FRAME <u>DENSE NO1 STRUCTURAL DOUGLAS FIR</u>				
SIDING <u>802. CORRUGATED FIRE RETARDENT POLYESTER</u>				
FILL <u>POLYVINYL CHLORIDE FILM TYPE</u>				
TOTALS TOTAL COOLING TOWER	<u>-</u>	<u>2502</u>	<u>0.8</u>	<u>216.0</u>

"E" ACCOUNT — MECHANICAL DRAFT COOLING TOWER

PHR 1.2-12

PAGE

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GARRARD 00000531

JOB NO. & TITLE _____

CONSTR. DATES 10/82 TO 4/82

CLIENT _____

PREPARED BY M. GALLOWAY

"F" — FIRED HEATERS

JOB LOCATION _____

SUMMARY OF FIRED HEATERS	INSTALLED QUANTITIES	FINAL MANHOURS		DIRECT COST \$ 1000	
		Bechtel	S/C	Bechtel Matl.	S/C L & M
CARRY FORWARD FROM PHR <u>1.2-15</u> PAGE <u>20</u> 16 F-1	1 EA	9666	730	389.2	22.2
CARRY FORWARD FROM PHR <u>1.2-15</u> PAGE <u>21</u> 16 F-2	1 EA	9666	730	378.4	22.2
CARRY FORWARD FROM PHR <u>1.2-15</u> PAGE <u>22</u> 16 F-3A/B/C/D	1 EA	48544	9624	3545.3	350.9
CARRY FORWARD FROM PHR <u>1.2-15</u> PAGE <u>23</u> 16 F-4	1 EA	9666	731	456.8	22.2
CARRY FORWARD FROM PHR <u>1.2-15</u> PAGE <u>24</u> 23 F-1	1 EA	4688	440	258.9	16.1
CARRY FORWARD FROM PHR _____ PAGE _____	EA				
CARRY FORWARD FROM PHR _____ PAGE _____	EA				
CARRY FORWARD FROM PHR _____ PAGE _____	EA				
TOTALS	EA	32230	12155	5028.6	433.6

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"F" ACCOUNT — FIRED HEATERS

PHR 1.2-14



**FIELD ASSEMBLED
"F" — PROCESS HEATER**

JOB NO. & TITLE 14053 ROBINSON REFINERY MODERNIZATION CONSTR. DATES 10/80 TO 4/82
 CLIENT MARATHON OIL CO. PREPARED BY M. GAUDWAY
 JOB LOCATION ROBINSON, ILLINOIS

EQUIP. NO. <u>16F-1</u> SERVICE <u>REACTOR CHARGE HEATER</u>			FINAL MAN HOURS		FINAL DIRECT MATL. US \$1,000			
HEAT ABSORBED <u>28.7</u> MMBTU/HR								
TUBE ASTM SPECS: RADIANT <u>A 335 P11</u> CONVECTION <u>A 335 P11</u>								
			Bechtel	S/C	Bechtel	S/C		
FURNISH MATERIALS					389.2			
HEATER ASSEMBLY								
STEEL FRAME			—	194	9666	637	18.8	
CASING			1575 SF					
RADIANT TUBES <u>8.6</u> INCH DIAMETER			26 EA					
CONVECTION TUBES <u>8.6</u> INCH DIAMETER			36 EA					
HEADERS & CROSSOVERS			20 LF					
TUBE SUPPORTS			—					
STRESS RELIEVING <u>YES</u>			EA	—				
RADIOGRAPHS <u>100%</u>			EA	—				
BURNERS			4 EA					
BURNER PIPING			LF					
REFRACTORY - BRICK <u>ASTM C155 2 1/2" THICK</u>			132 SF					
- CONCRETE <u>6 1/2" THICK</u>			132 SF			93	3.4	
- BLOCK <u>4" CERAMIC FIBRE (KODIF)</u>			132 SF					
STACK - DESCRIPTION: <u>220'</u>			—					
STACK LINING - DESCRIPTION: <u>INSULATING CONCRETE</u>			7000 SF					
BREECHING			30 SF					
BREECHING LINING - DESCRIPTION:			30 SF					
(NOTE: ATTACH, AS NEXT SHEET, SIMPLE SKETCH SHOWING PREASSEMBLY)								
TOTALS			TOTAL HEATER 16F-1		194	9666	730	389.2 22.2

"F" ACCOUNT — FIELD ASSEMBLED PROCESS HEATER

PHR 1.2-15

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GARRARD 00000533



**FIELD ASSEMBLED
"F" — PROCESS HEATER**

JOB NO. & TITLE 14053 ROBINSON REF MODERNIZATION

CLIENT MARATHON OIL CO.

JOB LOCATION ROBINSON, ILLINOIS

CONSTR. DATES 10/80 TO 4/82

PREPARED BY M. GALLOWAY

EQUIP. NO. <u>16F-2</u>		SERVICE <u>STRIPPER HEATER REPOILED</u>		FINAL MAN HOURS		FINAL DIRECT MATL. US \$1,000	
HEAT ABSORBED <u>27.9</u> MMBTU/HR		EFFICIENCY <u>91.5</u> % FUEL <u>OIL/GAS</u>		Bechtel	S/C	Bechtel	S/C
TUBE ASTM SPECS: RADIANT <u>CS A-106 GR B</u>		CONVECTION <u>CS A106 GR B</u>					
FURNISH MATERIALS		QUANTITIES	METAL WEIGHT (TONS)			378.4	
HEATER ASSEMBLY							
STEEL FRAME		—	125	9666	637		18.8
CASING		1400 SF					
RADIANT TUBES <u>5.56</u> INCH DIAMETER		44 EA					
CONVECTION TUBES <u>5.56</u> INCH DIAMETER		60 EA					
HEADERS & CROSSOVERS		100 LF					
TUBE SUPPORTS		—					
STRESS RELIEVING <u>YES</u>		EA	—				
RADIOGRAPHS <u>100%</u>		EA	—				
BURNERS		4 EA					
BURNER PIPING		LF					
REFRACTORY - BRICK <u>ASTM C155 2 1/2" THICK</u>		132 SF	—				
- CONCRETE <u>6 1/2" THICK</u>		132 SF	—			93	3.4
- BLOCK <u>4" CERAMIC FIBRE (RIDE)</u>		132 SF	—				
STACK - DESCRIPTION: <u>COMBINATION W/ 16F-1 & F-4</u>		—					
STACK LINING - DESCRIPTION: <u>INSULATING CONCRETE</u>		SEE 16F-1 SF	—				
BREECHING		30 SF	—				
BREECHING LINING - DESCRIPTION:		30 SF	—				
(NOTE: ATTACH, AS NEXT SHEET, SIMPLE SKETCH SHOWING PREASSEMBLY)							
TOTALS			TOTAL HEATER 16F-2	125	9666	730	378.4 22.2

"F" ACCOUNT — FIELD ASSEMBLED PROCESS HEATER

PHR 1.2-15



**FIELD ASSEMBLED
"F" - PROCESS HEATER**

JOB NO. & TITLE 14053 ROBINSON REFINERY MODERN.
CLIENT MARATHON OIL CO.
JOB LOCATION ROBINSON, ILLINOIS

CONSTR. DATES 10/80 TO 4/82
PREPARED BY M. GALLAWAY

EQUIP. NO. <u>16F-3A/B/C/D</u> SERVICE <u>PLATFORMING CHARGE HEATER</u>			FINAL MAN HOURS		FINAL DIRECT MATL. US \$1,000	
HEAT ABSORBED <u>213.2 RADIANT</u> EFFICIENCY _____ % FUEL _____						
TUBE ASTM SPECS: RADIANT <u>A335 GR P9</u> CONVECTION <u>A335 GR P9</u>			Bechtel	S/C	Bechtel	S/C
FURNISH MATERIALS	QUANTITIES	METAL WEIGHT (TONS)			3545.3	
HEATER ASSEMBLY						
STEEL FRAME	—	22.00	48,079	2375		69.9
CASING	26,000 SF					
RADIANT TUBES <u>4" INCH DIAMETER</u>	168 EA					
CONVECTION TUBES <u>3 1/4" INCH DIAMETER</u> 192 + 96 + 16	304 EA					
HEADERS & CROSSOVERS <u>ACOUSTIC WAVELENGTHS TESTING</u>	LF			333		31.7
TUBE SUPPORTS	—					
STRESS RELIEVING <u>Yes</u>	EA	—				
RADIOGRAPHS <u>100%</u>	EA	—				
BURNERS	46 EA					
BURNER PIPING	LF					
REFRACTORY - BRICK <u>ASTM-155-3000</u> / <u>ASTM C-27 1500</u>	4638 SF					
<u>3/4" THK CONCRETE LUMNITE / MAYDITE / VERMICULITE MIX</u>	2048 SF		465	6811		249.2
<u>BLOCK CERAMIC FIBRE 5" TO 7" THK</u>	14381 SF					
STACK - DESCRIPTION:	—					
STACK LINING - DESCRIPTION: <u>LUMNITE - MAYDITE 1 1/2"</u>	SF	—				
BREECHING	500 SF					
BREECHING LINING - DESCRIPTION: <u>3" INSULATING CONCRETE</u>	500 SF					
(NOTE: ATTACH, AS NEXT SHEET, SIMPLE SKETCH SHOWING PREASSEMBLY)						
TOTALS	TOTAL HEATER 16F-3A/B/C/D 2.200		48544	9524	3545.3	350.9

"F" ACCOUNT - FIELD ASSEMBLED PROCESS HEATER

PHR 1.2-15

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GARRARD 00000535



**"F" — FIELD ASSEMBLED
PROCESS HEATER**

JOB NO. & TITLE 14053 ROBINSON REFINERY MODERN.

CLIENT MARATHON OIL CO.

JOB LOCATION ROBINSON, ILLINOIS

CONSTR. DATES 10/80 TO 4/82

PREPARED BY M. GALLOWAY

EQUIP. NO. <u>16F-4</u>		SERVICE <u>REFORMER HEATER</u>		FINAL MAN HOURS		FINAL DIRECT MATL. US \$1,000	
HEAT ABSORBED <u>33.70</u> MMBTU/HR		EFFICIENCY <u>91.5</u> % FUEL <u>OIL / GAS</u>		Bechtel	S/C	Bechtel	S/C
TUBE ASTM SPECS: RADIANT <u>CS A106 GR B</u>		CONVECTION <u>CS A106 GR B</u>					
FURNISH MATERIALS		QUANTITIES	METAL WEIGHT (TONS)			456.8	
HEATER ASSEMBLY							
STEEL FRAME		—	145	9666	637		18.2
CASING		2000 SF					
RADIANT TUBES <u>5.56</u> INCH DIAMETER		48 EA					
CONVECTION TUBES <u>5.56</u> INCH DIAMETER		60 EA					
HEADERS & CROSSOVERS		100 LF					
TUBE SUPPORTS		—					
STRESS RELIEVING			EA				
RADIOGRAPHS			EA				
BURNERS		4	EA				
BURNER PIPING			LF				
REFRACTORY - BRICK <u>ASTM C155 2 1/2" THK</u>		1322 SF	EA				
- CONCRETE <u>6 1/2" THK</u>		1322 SF	EA				
- BLOCK <u>4" CERAMIC FIRE BRICK (RUL)</u>		1322 SF					
STACK - DESCRIPTION: <u>COMBINATION W/ 16F-1 & 17-2</u>							
STACK LINING - DESCRIPTION:		(SEE 16F-1) SF					
BREECHING		30 SF					
BREECHING LINING - DESCRIPTION:		30 SF					
(NOTE: ATTACH, AS NEXT SHEET, SIMPLE SKETCH SHOWING PREASSEMBLY)							
TOTALS			TOTAL HEATER 16F-4	145	9666	731	456.8 22.2

"F" ACCOUNT — FIELD ASSEMBLED PROCESS HEATER

PHR 1.2-15

PAGE 23

GARRARD 00000536



**FIELD ASSEMBLED
"F" - PROCESS HEATER**

JOB NO. & TITLE 14053 ROBINSON REFINERY MODERN

CLIENT MARATHON OIL CO.

JOB LOCATION ROBINSON, ILLINOIS

CONSTR. DATES 10/80 TO 4/82

PREPARED BY M. GALLAGHER

EQUIP. NO. <u>23F-1</u>		SERVICE <u>DEBUTANISER REBOILER</u>	FINAL MAN HOURS		FINAL DIRECT MATL. US \$1,000		
HEAT ABSORBED <u>36.55</u> MMBTU/HR		EFFICIENCY <u>89.6%</u> FUEL <u>GAS</u>	Bechtel	S/C	Bechtel	S/C	
TUBE ASTM SPECS: RADIANT <u>A106 GR B</u>		CONVECTION <u>A106 GR B</u>					
FURNISH MATERIALS		QUANTITIES	METAL WEIGHT (TONS)			258.9	
HEATER ASSEMBLY				4688			
STEEL FRAME		—	160				
CASING		1880 SF					
RADIANT TUBES <u>6 5/8</u> INCH DIAMETER		40 EA					
CONVECTION TUBES <u>6 5/8</u> INCH DIAMETER		104 EA					
HEADERS & CROSSOVERS		100 LF					
TUBE SUPPORTS		—					
STRESS RELIEVING		EA	—				
RADIOGRAPHS <u>100%</u>		EA	—				
BURNERS		4 EA					
BURNER PIPING		LF					
REFRACTORY - BRICK <u>ASTM C155 2 1/2" THK</u>		EA	—				
- CONCRETE <u>6 1/2" THK</u>		1875 SF	—		440	16.1	
- BLOCK <u>4" CERAMIC FIREBRICK</u>		SF	—				
STACK - DESCRIPTION: <u>64' x 5'-3" O.D.</u>		—					
STACK LINING - DESCRIPTION:		1200 SF	—				
BREECHING		300 SF					
BREECHING LINING - DESCRIPTION:		300 SF	—				
(NOTE: ATTACH, AS NEXT SHEET, SIMPLE SKETCH SHOWING PREASSEMBLY)							
TOTALS			TOTAL HEATER 23F-1	160	4688	440	258.9 16.1

"F" ACCOUNT - FIELD ASSEMBLED PROCESS HEATER

PHR 1.2-15

CONSTR. DATES 10/80 TO 4/82

PREPARED BY M. GALLOWAY

"G" - PUMPS & DRIVERS JOB LOCATION

SUMMARY OF EXCHANGERS	INSTALLED QUANTITIES	FINAL MANHOURS		DIRECT COST \$ 1000	
		Bechtel	S/C	Bechtel Matl.	S/C L & M
CARRY FORWARD FROM PHR <u>1.2-23</u> PAGE <u>26</u> PLANT 9	7 EA	-	10	23.3	0.2
CARRY FORWARD FROM PHR <u>1.2-23</u> PAGE <u>29</u> PLANT 16	28 EA	4846	978	745.2	28.6
CARRY FORWARD FROM PHR <u>1.2-23</u> PAGE <u>26</u> PLANT 20/21	6 EA	50	264	44.8	7.7
CARRY FORWARD FROM PHR <u>1.2-23</u> PAGE <u>32</u> PLANT 23	20 EA	1393	570	198.1	1.5
CARRY FORWARD FROM PHR <u>1.2-23</u> PAGE <u>32</u> PLANT 29	5 EA	229	-	54.1	-
CARRY FORWARD FROM PHR <u>1.2-23</u> PAGE <u>33</u> PLANT 32	3 EA	1696	-	117.5	-
CARRY FORWARD FROM PHR <u>1.2-23</u> PAGE <u>33</u> PLANT 90	2 EA	405	-	9.2	-
CARRY FORWARD FROM PHR _____ PAGE _____	EA				
TOTALS	EA	8619	1302	1192.2	36.0

"G" ACCOUNT - PUMPS & DRIVERS

PHR 1.2-8

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GARRARD 00000538

JOB NO. & TITLE 14053, RRMP.CONSTR. DATES 10/80 TO 4/82CLIENT MARATHON OIL CO.

PREPARED BY _____

"G" - PUMPSJOB LOCATION ROBINSON, ILL.

PLT. NO.	EQUIP. NO.	SERVICE	PUMP:	GPM	TDH	DISCH. PSIG	°F	CASE MAT'L	RPM	BHP	FINAL MAN HOURS		DIRECT COST \$1000	
			DRIVER:	TYPE M - ST - ENGINE		DESCRIPTION: ENCLOSURE/VOLTS OR PSIG IN/OUT				HP	Bechtel	S/C	Bechtel Matl.	S/C L & M
9	G-1/15	PUMP IMPELLERS (LOW AMINE CIRCUL. PUMPS)	PUMP								By Moc		3.9	
			DRIVER											
9	G-3/35	PUMP IMPELLERS (RESEN REFLUX PUMPS)	PUMP								By Moc		2.5	
			DRIVER											
9	G-12	LOW PRESS. AMINE PUMP	PUMP								-	5	6.8	0.1
			DRIVER											
9	G-15A/B	SOUR WATER RECYCLE PUMP (SP)	PUMP	15	228	144 H	100	C.S.	3600	9	-	5	10.1	0.1
			DRIVER	MOTOR										
		TOTAL PLANT 9	PUMP								-	10	23.3	0.2
			DRIVER											
			PUMP											
			DRIVER											
20	G-903A/B	SOUR NAPHTHA CHARGE PUMPS	PUMP	608	348	110	140	C.S.	3600	58	21	115	18.3	3.3
			DRIVER	MOTOR				TEFC / 460V		75				
20	G-904A/B	SWEET NAPHTHA CHARGE PUMPS	PUMP	608	363	115	140	C.S.	3600	60.4	21	115	17.0	3.4
			DRIVER	MOTOR				TEFC / 460V		75				
21	G-99A/B	CONDENSATE TRANSFER PUMP & SPARK	PUMP								8	34	9.5	1.0
			DRIVER	MOTOR										
ALL OTHERS											50	264	44.8	7.7
TOTAL PLANT 20/21 1.6 EA)														
TOTALS											50	274	68.1	7.9
TOTAL THIS PAGE														

PAGE 26

"G" ACCOUNT - PUMPS

PHR 1.2-23

JOB NO. & TITLE 14053 RRMP.CONSTR. DATES 10/80 TO 4/82CLIENT MARATHON OIL CO.PREPARED BY A.T. / M. MILLER**"G" - PUMPS**JOB LOCATION ROBINSON, ILL.

PLT. NO.	EQUIP. NO.	SERVICE	PUMP:	GPM	TDH	DISCH. PSIG	°F	CASE MAT'L	RPM	BHP	FINAL MAN HOURS		DIRECT COST \$1000			
			DRIVER:	TYPE M - ST - ENGINE		DESCRIPTION: ENCLOSURE/VOLTS OR PSIG IN/OUT				HP	Bechtel	S/C	Bechtel Matl.	S/C L & M		
16	G-1A/B	HYDRO CHARGE PUMP (1 SPARE)	PUMP	912	2615	799-3	140	C.S.	3600	636	345	55	135.7	1.6		
			DRIVER	MOTOR		WPI / 2300 VOLTS				700						
16	G-2	WATER INJECTION PUMP	PUMP	29	1557	671	120	STEEL	1200	13	85	55	9.8	1.6		
			DRIVER	MOTOR		TEFC / 460 VOLTS				15						
16	G-3A/B	STRIPPER REFLUX PUMP	PUMP	137	254	220	100	STEEL	3600	10.2	345	55	10.7	1.6		
			DRIVER	MOTOR		TEFC / 460 VOLTS				15						
16	G-4A/B	STRIPPER BOTTOMS PUMP (3 SPARE)	PUMP	2778	470	272	480	STEEL	1800	246	345	55	88.1	1.6		
			DRIVER	MOTOR		WP- I / 2300 VOLTS.				300						
16	G-5	CHEMICAL INJECTION PUMP	PUMP								SEE SKID T ACCT.	#1 IN	4.1			
			DRIVER													
16	G-6	REACTOR PROD. SEPARAT. PUMP	PUMP	756	1942	800	100	STEEL	3600	467	165	55	58.8	1.6		
			DRIVER	MOTOR		LIP- I / 2300 VOLTS.				600						
16	G-7A/B	DEBUTANIZER REFLUX PUMP (3 SPARE)	PUMP	362	289	316	100	C.S.	3600	23	245	55	14.5	1.6		
			DRIVER	MOTOR		TEFC / 460 VOLTS				30						
16	G-8A/B	DEBUTANIZER REBOILER PUMP (1 SPARE)	PUMP	1246	429	372	530	11-BGR	3600	122	345	55	77.3	1.6		
			DRIVER	MOTOR		TEFC / 460 VOLTS.				150						
16	G-9	NET GAS COMP. 1 ST STAGE SUC. DRUM PUMP	PUMP								135	55	9.0	1.6		
			DRIVER													
ALL OTHERS											(____) EA					
TOTALS											TOTAL THIS PAGE		2010	440	403.0	12.8

"G" ACCOUNT - PUMPS

JOB NO. & TITLE 14053 RRMP

CONSTR. DATES _____ TO _____

CLIENT MARATHON OIL CO.PREPARED BY AT. / M. MILLER**"G" - PUMPS**JOB LOCATION ROBINSON, ILL.

PLT. NO.	EQUIP. NO.	SERVICE	PUMP:	GPM	TDH	DISCH. PSIG	°F	CASE MAT'L	RPM	BHP	FINAL MAN HOURS		DIRECT COST \$ 1000			
			DRIVER:								TYPE M - ST - ENGINE	DESCRIPTION: ENCLOSURE/VOLTS OR PSIG IN/OUT	HP	Bechtel	S/C	Bechtel Matl.
16	G-10A	STM. DISCH. / DRUM WATER B. CIRC. PUMP (+ SPARE)	PUMP	1651	235	750	498	11-13R	1800	124	593	55	107.6	1.6		
			DRIVER	10A TURBINE/10B MOTOR		600/150 PSIG. / TEFC - 460V.		150.								
16	G-11A	SURFACE CONDENSER COND. PUMP (+ SPARE)	PUMP	76	159	57.1	115	C.I.	3600	6.08	325	55	18.9	1.6		
			DRIVER	11A S.T./11B MOTOR		150/50 PSIG. / TEFC - 460V.		15								
16	G-12	START UP CHEMIC. INJ. PUMP.	PUMP								SEE SKID #2 IN		4.5			
			DRIVER								"T" ACCT.					
16	G-13	CHEM. CONDENS INJ. PUMP.	PUMP								↓		4.4			
			DRIVER													
16	G-14	ORE. CHLORIDE INJECTION PUMP.	PUMP								230	55	1.7	1.6		
			DRIVER													
16	G-15A	WASH WATER CIRC. PUMP (+ SPARE)	PUMP								130	55	10.8	1.6		
			DRIVER													
16	G-16A	WASH TOWER CHARGE PUMP (+ SPARE)	PUMP								SEE SKID #4 IN		17.6			
			DRIVER								"T" ACCT.					
16	G-17A	CAUSTIC INJ. PUMP + SPARE	PUMP								SEE SKID #5 IN		7.3			
			DRIVER								"T" ACCT.					
16	G-18	START UP CAUSTIC INJ. PUMP.	PUMP								↓		3.5			
			DRIVER													
ALL OTHERS											(____) EA					
TOTALS											TOTAL THIS PAGE		1278	220	176.3	6.4

"G" ACCOUNT - PUMPS

JOB NO. & TITLE 14053 RRMP.CLIENT MARATHON OIL CO.JOB LOCATION ROBINSON, ILL.CONSTR. DATES 10/80 TO 4/82PREPARED BY A.T./M. MILLER**"G" - PUMPS**

PLT. NO.	EQUIP. NO.	SERVICE	PUMP:	GPM	TDH	DISCH. PSIG	°F	CASE MAT'L	RPM	BHP	FINAL MAN HOURS		DIRECT COST \$1000			
			DRIVER:	TYPE M - ST - ENGINE		DESCRIPTION: ENCLOSURE/VOLTS OR PSIG IN/OUT				HP	Bechtel	S/C	Bechtel Matl.	S/C L & M		
16	G-23	FLARE & RELIEF K.O. DRUM SLOP PUMP.	PUMP	20	249	85	100	C.I.	3266	6.0	248	55	11.0	1.6		
			DRIVER	S.T.		150/50 PSIG.				6						
16	G-36	EDC PUMP.	PUMP								157	48	3.3	1.5		
			DRIVER													
16	G-37	SWEET NAPHTHA- BOOSTER PUMP.	PUMP								218	55	9.3	1.6		
			DRIVER													
16	G-38	CORR- INHIBITOR INJ. PUMP	PUMP								SEE SKID # 1		4.1			
			DRIVER								IN "T" ACCT					
16	G-39	CONDENSATE TRANSF. PUMP	PUMP								115	50	5.0	1.5		
			DRIVER													
16	G-40	ATTEMPERATOR FEED PUMP B. & SPARE.	PUMP								317	55	13.2	1.6		
			DRIVER													
16	G-41	CHELANT FEED PUMP B. & SPARE.	PUMP								SEE V-2 IN		INCL. W/ V-06			
			DRIVER								"T" ACCT.					
16	G-42	SODIUM SULFITE FEED PUMP B. & SPARE.	PUMP								↓		INCL. W/ V-06			
			DRIVER													
16	G-44	BOILER FEED WATER PUMP B. & SPARE.	PUMP	181	2000	842.1	220	C-I.	3600	161	504	55	116.0	1.6		
			DRIVER	MOTOR		WP-I/2300 VOLTS.				200						
ALL OTHERS											TOTAL THIS PAGE. (1 — EA)		1558	318	160.9	9.4
TOTALS											TOTAL PLANT 16		4846	978	745.2	28.6

JOB NO. & TITLE 14053. RRMP.

CONSTR. DATES _____ TO _____

CLIENT MARATHON OIL CO.PREPARED BY A.T. MILLER**"G" - PUMPS**JOB LOCATION ROBINSON, ILL.

PLT. NO.	EQUIP. NO.	SERVICE	PUMP:	GPM	TDH	DISCH. PSIG	°F	CASE MAT'L	RPM	BHP	FINAL MAN HOURS		DIRECT COST \$ 1000			
											DRIVER:	TYPE M - ST - ENGINE	DESCRIPTION: ENCLOSURE/VOLTS OR PSIG IN/OUT	HP	Bechtel	S/C
16	G-45A/B	MAIN LUBE OIL PUMP FOR 16K-2	PUMP													
			DRIVER	S.T. /	MOTOR											
16	G-46	PACKING MOTOR COOLING WTR. PUMP FOR 16K-1.	PUMP													
			DRIVER	MOTOR												
16	G-47	CYLINDER JACKET COOLING WTR. PUMP FOR 16K-1.	PUMP													
			DRIVER	MOTOR												
16	G-48	AUXILIARY LUBE OIL PUMP FOR 16K-3A.	PUMP													
			DRIVER	MOTOR												
16	G-49	AUX. LUBE OIL PUMP FOR 16K-3B	PUMP													
			DRIVER	MOTOR												
16	G-50	MAIN LUBE OIL PUMP FOR 16K-3A	PUMP													
			DRIVER													
16	G-51	MAIN LUBE OIL - PUMP FOR 16K-3B	PUMP													
			DRIVER													
16	G-52A/B	MAIN + AUX. COOLANT PUMP FOR 16K-3A/B	PUMP													
			DRIVER	MOTOR												
16	G-53	PACKING & COOLANT PUMP FOR 16K-3A/B.	PUMP													
			DRIVER	MOTOR												
ALL OTHERS											(____) EA)					
TOTALS (INCLUDED IN COMPRESSOR ACCTS.)																

"G" ACCOUNT - PUMPS

PHR 1.2-23

JOB NO. & TITLE 14053 RRMP

CONSTR. DATES _____ TO _____

CLIENT MARATHON OIL CO.

PREPARED BY _____

"G" - PUMPSJOB LOCATION ROBINSON, ILL.

PLT. NO.	EQUIP. NO.	SERVICE	PUMP:	GPM	TDH	DISCH. PSIG	°F	CASE MAT'L	RPM	BHP	FINAL MAN HOURS		DIRECT COST \$1000			
			DRIVER:	TYPE M - ST - ENGINE		DESCRIPTION: ENCLOSURE/VOLTS OR PSIG IN/OUT				HP	Bechtel	S/C	Bechtel Matl.	S/C L & M		
23	G-1A/B	DE-ETHANIZER FEED PUMP & SPARE.	PUMP								85		16.3			
			DRIVER	MOTOR							5					
23	G-2A/B	ABSORBER FEED PUMP & SPARE	PUMP								85		10.4			
			DRIVER	MOTOR							5					
23	G-3A/B	SPONGE OIL PUMP & SPARE	PUMP								120		11.9			
			DRIVER	MOTOR							5					
23	G-4	DEBUTANIZER REFLUX PUMP	PUMP								40		6.5			
			DRIVER	MOTOR							5					
23	G-5A/B	DEBUTANIZER REBOILER PUMP (3 SP.)	PUMP	2213	461	252	300	C.S.	180	213	388	25	66.3	0.7		
			DRIVER	MOTOR		WP-1/ 2300 VOLTS.				250	5	5				
23	G-6A/B	DEPROPANIZER FEED PUMP & SPARE.	PUMP								300	25	21.5	0.8		
			DRIVER	MOTOR							5	5				
23	G-7A/B	LEAN OIL PUMP & SPARE	PUMP								85		10.7			
			DRIVER	MOTOR							5					
23	G-8A/B	DEPROPANIZER O.H. PUMP & SPARE.	PUMP								85		11.4			
			DRIVER	MOTOR.							5					
23	G-9A/B	BUTANE PRODUCT PUMP & SPARE	PUMP								85		10.7			
			DRIVER	MOTOR.							5					
ALL OTHERS											MISCELL SPARE PARTS (17 EA)			9.0		
TOTALS											TOTAL THIS PAGE		1273	50	174.7	1.5

"G" ACCOUNT - PUMPS

PHR 1.2-23

JOB NO. & TITLE 14053. RRMP.

CONSTR. DATES _____ TO _____

CLIENT MARATHON OIL CO.

PREPARED BY _____

"G" - PUMPSJOB LOCATION ROBINSON, ILL.

PLT. NO.	EQUIP. NO.	SERVICE	PUMP:	GPM	TDH	DISCH. PSIG	°F	CASE MAT'L	RPM	BHP	FINAL MAN HOURS		DIRECT COST \$ 1000	
			DRIVER:	TYPE M - ST - ENGINE		DESCRIPTION: ENCLOSURE/VOLTS OR PSIG IN/OUT				HP	Bechtel	S/C	Bechtel Matl.	S/C L & M
23	G-10	CHEM. ADDITIVE PUMP	PUMP								20		6.2	
			DRIVER	MOTOR							1			
23	G-11	CHEM. ADDITIVE PUMP	PUMP								20		6.2	
			DRIVER	MOTOR							1			
23	G-12	HYDROCARBON CONDEN. TRANSF. PUMP	PUMP	20	259	88	100	C.S.	3266	6.2	80		11.0	
			DRIVER	STRANSF. TURB.		150/50 PSIG.				6.2	1			
		TOTAL PLANT 23	PUMP								1393	50	198.1	1.5
			DRIVER											
			PUMP											
			DRIVER											
29	G-1A	BOTTOMS PUMP & SPARE	PUMP	1259	394	145	301	C.S.	1780	122	169		36.1	
			DRIVER	MOTOR		TEFL / 460				150				
29	G-2A	OVERHEAD PUMP & SPARE	PUMP							37	50		11.8	
			DRIVER											
29	G-3	CORROSION INHIBITOR INJECTION PUMP	PUMP							.25	10		6.2	
			DRIVER											
		TOTAL PLANT 29	PUMP								229	-	54.1	-
			DRIVER											
ALL OTHERS											(____ EA)			
TOTALS														

"G" ACCOUNT - PUMPS

PHR 1.2-23

JOB NO. & TITLE 14053, RRMP.

CONSTR. DATES _____ TO _____

CLIENT MARATHON OIL CO.

PREPARED BY _____

"G" - PUMPSJOB LOCATION ROBINSON, ILL.

PLT. NO.	EQUIP. NO.	SERVICE	PUMP:	GPM	TDH	DISCH. PSIG	°F	CASE MAT'L	RPM	BHP	FINAL MAN HOURS		DIRECT COST \$ 1000		
			DRIVER:	TYPE M - ST - ENGINE		DESCRIPTION: ENCLOSURE/VOLTS OR PSIG IN/OUT					HP	Bechtel	S/C	Bechtel Matl.	S/C L & M
32	G-14	A/B/C, COOLING WTR. PUMPS & SP.	PUMP	10600	140	61	90	D I.	1185 4418	469	1696	-	117.5		
			DRIVER	14A/B MOTOR / 14C S.T.		W.P.-I- 2300 VOLTS. / 600/150 PSI.					500			-	
32	G-15	A/B, DISPERSANT INJ. PUMP.	PUMP								WITH 32V-1		INCL W/ 32V-1		
			DRIVER	MOTOR											
32	G-18	A/B, H ₂ SO ₄ INJ. PUMP	PUMP								WITH 32V-2		INCL W/ 32V-2		
			DRIVER	MOTOR.											
32	G-20	A/B, CHROMATE & ZINC SOL. INJ. PUMP	PUMP								WITH 32V-3		INCL W/ 32V-1		
			DRIVER	MOTOR.											
		TOTAL PLANT 32	PUMP								1090		117.5		
			DRIVER												
			PUMP												
			DRIVER												
(31)	90	G-18 A/B DEAERATOR FEED WATER PUMP & SP.	PUMP								405		9.2		
			DRIVER	MOTOR											
			PUMP												
			DRIVER												
			PUMP												
			DRIVER												
ALL OTHERS											(____) EA				
TOTALS											2101	-			

"G" ACCOUNT - PUMPS

PHR 1.2-23



JOB NO. & TITLE 14053 ROBINSON REFINERY MODERN. CONSTR. DATES 10/80 TO 4/82
CLIENT MARATHON OIL CO. PREPARED BY M. GALLAGHER
JOB LOCATION ROBINSON, ILLINOIS

"K" - COMPRESSORS

EQUIP. NO. 9K-2 TYPE (Recip, Centr, Etc.) RECIP. TOTAL BHP 13.7 RPM 514

CYLINDER OR CASE	SERVICE	CASE MAT'L.	ACFM	SUCTION		DISCHARGE		MOL. WT.	Cp/Cv	BHP
				PSIG	°F	PSIG	°F			
1	SOUR GAS COMPRESSOR	CI		59.2	100	114.8	198	33.1	1.31	13.7
2										
3										
4										
5										
6										
7										
8										
9										

	WEIGHT (TONS)	FINAL MAN HOURS		FINAL DIRECT MATL. US \$1,000	
		Bechtel	S/C	Bechtel	S/C
COMPRESSOR	4	241	11	51.9	0.3
DRIVER: TYPE (1) <u>MOTOR</u> HP <u>20</u> RPM <u>1800</u>					
CONDITIONS (2):					
GEAR: _____ HP _____ RPM To _____ RPM					
BOTTLES: _____ EACH					
INTERCOOLERS: _____ EACH With/Without Piping					
OTHER ACCESSORIES					
<u>CHARGE</u> <u>STRIPPER-OFF GAS COMP. CANCELLATION</u>				26.0	
TOTAL FOR 1 SET					
TOTALS FOR _____ IDENTICAL SETS	4	241	11	77.9	0.3

(1)
DRIVER TYPES:
STM TURB, INDUCT. MOTOR,
SYNCH. MOTOR, GAS TURB, ETC.

(2)
DRIVER CONDITIONS:
MOTOR VOLTAGE, STEAM PSIG/
°F IN & OUT, ETC.

"K" ACCOUNT - COMPRESSORS

PHR 1.2-25

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GARRARD 00000548

JOB NO. & TITLE 14053 ROBINSON REF. MODERN.CONSTR. DATES 01/82 TO 4/82CLIENT MARATHON OIL CO.PREPARED BY M. GAUGHAN**"K" - COMPRESSORS**JOB LOCATION ROBINSON, ILLINOIS

M. MILLER

EQUIP. NO. 16K-1A/B TYPE (Recip, Centr, Etc.) RECIP. TOTAL BHP 214 RPM 437

CYLINDER OR CASE	SERVICE	CASE MAT'L.	ACFM	SUCTION		DISCHARGE		MOL. WT.	Cp/Cv	BHP
				PSIG	°F	PSIG	°F			
1	RECYCLE GAS	C.I.	33mm	600	105	710	131	2.1	1.43	214
2										
3										
4										
5										
6										
7										
8										
9										

	WEIGHT (TONS)	FINAL MAN HOURS		FINAL DIRECT MATL. US \$1,000	
		Bechtel	S/C	Bechtel	S/C
COMPRESSOR	63	2325	16	303.3	0.5
DRIVER: TYPE (1) <u>MOTOR</u> HP <u>250</u> RPM <u>450</u>					
CONDITIONS (2):					
GEAR: _____ HP _____ RPM To _____ RPM					
BOTTLES: <u>4</u> EACH					
INTERCOOLERS: _____ EACH With/Without Fiping					
OTHER ACCESSORIES <u>PIPING & SKID</u>					
<u>MISCELL. FIELD PURCHASES (FIELD REP)</u>				28.7	
TOTAL FOR 1 SET					
TOTALS FOR <u>2</u> IDENTICAL SETS		2325	16	332.0	0.5

(1)

DRIVER TYPES:
STM TURB, INDUCT. MOTOR,
SYNCH. MOTOR, GAS TURB, ETC.

(2)

DRIVER CONDITIONS:
MOTOR VOLTAGE, STEAM PSIG/
°F IN & OUT, ETC.

PAGE 36

"K" ACCOUNT - COMPRESSORS

PHR 1.2-25

GARRARD 00000549

JOB NO. & TITLE 14053 ROBINSON REFINERY MODERN.CONSTR. DATES 10/80 TO 4/82

CLIENT _____

PREPARED BY M. GALLWAY**"K" — COMPRESSORS**

JOB LOCATION _____

EQUIP. NO. 16K-2TYPE (Recip, Centr, Etc.) CENTR.TOTAL BHP 4240RPM 7132

CYLINDER OR CASE	SERVICE	CASE MAT'L.	ACFM	SUCTION		DISCHARGE		MOL. WT.	Cp/Cv	BHP
				PSIG	°F	PSIG	°F			
1	RECYCLE GAS (H ₂ + H _c) <u>LEAN RICH</u>	STEEL	<u>13494</u> <u>9276</u>	<u>105</u> <u>112</u>	<u>100</u> <u>100</u>	<u>167</u> <u>154</u>	<u>150</u> <u>150</u>	<u>8.33</u> <u>4.62</u>	<u>1.3</u> <u>1.35</u>	<u>4409</u> <u>2153</u>
2										
3										
4										
5										
6										
7										
8										
9										

	WEIGHT (TONS)	FINAL MAN HOURS		FINAL DIRECT MATL. US \$1,000	
		Bechtel	S/C	Bechtel	S/C
COMPRESSOR	<u>33</u>	<u>3589</u>	<u>1080</u>	<u>1431.8</u>	<u>31.5</u>
DRIVER: TYPE (1) <u>ST</u> HP <u>4665</u> RPM <u>7132</u>					
CONDITIONS (2): <u>600 PSIG / 4" HG A.P.S.</u>					
GEAR: _____ HP _____ RPM To _____ RPM					
BOTTLES: _____ EACH					
INTERCOOLERS: _____ EACH With/Without Piping					
OTHER ACCESSORIES					
FIELD PURCHASES (FIELD REP)				<u>10.5</u>	
TOTAL FOR 1 SET					
TOTALS FOR <u>1</u> IDENTICAL SETS	<u>33</u>	<u>3589</u>	<u>1080</u>	<u>1442.3</u>	<u>31.5</u>

(1)

DRIVER TYPES:

STM TURB, INDUCT. MOTOR,
SYNCH. MOTOR, GAS TURB, ETC.

(2)

DRIVER CONDITIONS:

MOTOR VOLTAGE, STEAM PSIG/
°F IN & OUT, ETC.PAGE
37**"K" ACCOUNT — COMPRESSORS**

PHR 1.2-25

GARRARD 00000550

JOB NO. & TITLE 14053 ROBINSON REFINERY MOD.CONSTR. DATES 10/80 TO 4/82CLIENT MARATHON OIL CO.PREPARED BY M. GALLAGHER**"K" — COMPRESSORS**JOB LOCATION ROBINSON, ILLINOISEQUIP. NO. 16K3A13B TYPE (Recip, Centr, Etc.) RECIP TOTAL BHP 3636 RPM 300

CYLINDER OR CASE	SERVICE	CASE MAT'L.	ACFM	SUCTION		DISCHARGE		MOL. WT.	Cp/Cv	BHP
				PSIG	°F	PSIG	°F			
1	NET GAS BOOSTER <u>LEAN RICH</u>	C.I.	<u>2757</u> <u>2459</u>	105	100	340	<u>256</u> <u>278</u>	<u>8.36</u> <u>7.18</u>	<u>1.29</u> <u>1.31</u>	<u>2518</u> <u>2241</u>
2	NET GAS BOOSTER <u>LEAN RICH</u>	C.I.	<u>779</u> <u>876</u>	333	100	730	<u>218</u> <u>220</u>	<u>4.66</u> <u>3.76</u>	<u>1.34</u> <u>1.36</u>	<u>1801</u> <u>1648</u>
3										
4										
5										
6										
7										
8										
9										

	WEIGHT (TONS)	FINAL MAN HOURS		FINAL DIRECT MAT'L. US \$1,000	
		Bechtel	S/C	Bechtel	S/C
COMPRESSOR <u>SYNCH.</u>	<u>141</u>	<u>7367</u>	<u>206</u>	<u>1836.1</u>	<u>6.0</u>
DRIVER: TYPE (1) <u>MOTOR</u> HP <u>5000</u> RPM <u>300</u>					
CONDITIONS (2):					
GEAR: _____ HP _____ RPM To _____ RPM					
BOTTLES: _____ EACH					
INTERCOOLERS: _____ EACH With/Without Piping					
OTHER ACCESSORIES					
<u>MISCELL FIELD PURCHASES</u>				<u>3.2</u>	
TOTAL FOR 1 SET					
TOTALS FOR <u>2</u> IDENTICAL SETS		<u>7367</u>	<u>206</u>	<u>1839.3</u>	<u>6.0</u>

(1)

DRIVER TYPES:
STM TURB, INDUCT. MOTOR,
SYNCH. MOTOR, GAS TURB, ETC.

(2)

DRIVER CONDITIONS:
MOTOR VOLTAGE, STEAM PSIG/
°F IN & OUT, ETC.

JOB NO. & TITLE 14053 ROBINSON REFINERY MOD.CONSTR. DATES 10/80 TO 4/82CLIENT MARATHON OIL CO.PREPARED BY M. GALLOWAY**"K" - FANS**JOB LOCATION ROBINSON, ILLINOIS

PLT. NO.	EQUIP NO.	SERVICE	FAN	ACFM	DISCH. PRESS.	CASE MAT'L	RPM	BHP	FINAL MAN HOURS		DIRECT COST \$1000	
			DRIVER	TYPE M-ST-ENGINE		DESCRIPTION		HP	Bechtel	S/C	Bechtel Matl	S/C L & M
16	K-411/3	LIFT GAS BLOWER & SPARE	FAN	74.5	11.4	MODULAR 1200	1620	8.3	323		18.5	
			DRIVER	MOTOR		V-BELT DRIVE 460V		10				
16	K-5	CHLORINATION BLOWER	FAN	28900	23.7	INCORPORATED 6000	1800	166.5	393		129.2	
			DRIVER	MOTOR		W.P. 1 ENCL. 2300/1		200				
16	K-611/3	REGENERATION BLOWER & SPARE	FAN	28400	20	INCORPORATED 6000	1800 / 1200	176	393	17	185.5	0.5
			DRIVER	MOTOR		W.P. 1		200				
16	K-711/3	REGENERATION COOLER BLOWER & SPARE	FAN	14110	14.5	C.S.	1800	71	323		24.5	
			DRIVER	MOTOR		TEFC		100				
16	K-811/3	FINES REMOVAL BLOWER & SPARE	FAN					12	322		12.9	
			DRIVER					15				
			FAN						1754	17	370.6	0.5
			DRIVER									
5		HYDROGEN COMP. STUDY (FOR EXIST EQUIP)	FAN								4.0	
			DRIVER									
			FAN									
			DRIVER									
			FAN									
			DRIVER									
ALL OTHERS									(— EA)			
TOTALS									THIS PAGE (PLT. 16) —————→ 1754 17			

THIS PAGE (PLT. 16) —————>

"K" ACCOUNT - FANS

PHR 1.2-26

JOB NO. & TITLE _____

CONSTR. DATES 10/80 TO 4/82

CLIENT _____

PREPARED BY M. GALLOWAY

"T"-SPECIAL EQUIPMENT JOB LOCATION _____

SUMMARY OF FIRED HEATERS						INSTALLED QUANTITIES	FINAL MANHOURS		DIRECT COST \$ 1000	
							Bechtel	S/C	Bechtel Matl.	S/C L & M
CARRY FORWARD FROM PHR	<u>1-2-27</u>	PAGE	<u>41</u>	PLANT	7	1 EA	41	38	142.7	1.1
CARRY FORWARD FROM PHR		PAGE	<u>41</u>	PLANT	9	3 EA	WITH / PIPING		3.0	
CARRY FORWARD FROM PHR		PAGE	<u>42-46</u>	PLANT	16	59 EA	1075.		224.5	
CARRY FORWARD FROM PHR		PAGE	<u>41/47</u>	PLANT	23	2 EA	82	-	0.4	
CARRY FORWARD FROM PHR		PAGE	<u>41</u>	PLANT	28	1 EA	184	37	203.1	1.1
CARRY FORWARD FROM PHR		PAGE	<u>48/49</u>	PLANT	32	8 EA	165.	225	129.8	6.6
CARRY FORWARD FROM PHR	V	PAGE	<u>47</u>	PLANT	29	1 EA	12	-	-	
CARRY FORWARD FROM PHR	_____	PAGE	____			EA				
TOTALS						EA	1559	300	703.5	8.8

1295

40

"T" ACCOUNT - SPECIAL EQUIPMENT

PHR 1.2-14

GARRARD 00000553



JOB NO. & TITLE _____

CONSTR. DATES 10/80 TO 4/82

CLIENT _____

PREPARED BY _____

"T" - SPECIAL EQUIPMENT

JOB LOCATION _____

PLT. NO.	EQUIP. NO.	SERVICE	DESCRIPTION AND DIMENSIONS	DRIVER HP	WEIGHT TONS	FINAL MAN HOURS		DIRECT COST \$1000	
						Bechtel	S/C	Bechtel Matl.	S/C L & M
7	V-1	BUTANE DRYER PACKAGE	SKID MOUNTED UNIT INCL. BUTANE DRYING VESSELS 7C-30A/B, GAS CONDENSER 7E-32, GAS COALESCER 7C-29, GAS STEAM HEATER 7E-33		18	41	38	142.7	1.1
9	Y-2A	AMINE FILTER	CARTRIDGE FILTER 55 GPM			WITH PIPING		1.0	
	Y-2B	AMINE FILTER	" " "					1.0	
	Y-3	AFTER FILTER	" " "					1.0	
23	T-1	TROLLEY FOR 23E-14	4T, 10' DRDP, PUSH TYPE, 512 X 31.8 BEAM			8	-	0.4	
28	V-1	PROPANE DRYER PACKAGE	SKID MOUNTED UNIT INCL. PROPANE DRYING VESSELS 28C-13A/B, GAS COALESCER 28C-14, GAS CONDENSER 28E-7, CIRCULATING PUMP 28G-4, PUMP/OUT PUMP 28G-5, GAS STEAM HEATER 28E-8, ELECTRIC HEATER 28E-9		16	184	37	203.1	1.1
ALL OTHERS						(____) EA			
TOTALS						233	75	349.2	2.2

TOTAL THIS PAGE



JOB NO. & TITLE _____

CONSTR. DATES 10/80 TO 4/82

CLIENT _____

PREPARED BY M. GAUDWAY**"T" - SPECIAL EQUIPMENT**

JOB LOCATION _____

M. MILLER

PLT. NO.	EQUIP. NO.	SERVICE	DESCRIPTION AND DIMENSIONS	DRIVER HP	WEIGHT TONS	FINAL MAN HOURS		DIRECT COST, \$ 1000	
						Bechtel	S/C	Bechtel Matl.	S/C L & M
16	V-1	AIR DRYER PACKAGE	SKID MOUNTED INCLUDING TWO DRYERS, PREFILTER & AFTERFILTER, MOISTURE INDICATOR & OTHER INSTRUMENTS		0.8 ^T	13		8.5	
16	V-2	BOILER FEED WATER TREAT. PACKAGE	SKID MOUNTED INCLUDING CHELANT DAY TANK (16D-11) SULFITE DAY TANK (16D-12), MIXERS 16Y-11 & 16Y-12, FEED PUMPS 16G-41 ^{A/B} & 16G-42 ^{A/B}		0.7 ^T	12		20.1	
16	T-5	CHEMICAL DRUM TILT	FOR HANDLING 55 GALLON DRUMS (24" φ x 3')			NOT INSTALLED		1.0	
16	T-12	AIR MOTOR HOIST	7 TON X 300' LIFT - CANCELLATION CHARGE. (HOIST MOTOR RECEIVED)	7.3		DELETED		26.0	CANCELLATION CHARGE
16	T-14	AIR MOTOR HOIST FOR REACTOR	12 TON X 200' LIFT, SPEED 10 FPM HOIST, 54 FPM TROLLEY,	9.3 - HOIST 0.75 - TROLLEY		12		83.7	
ALL OTHERS						(____) EA			
TOTALS						37		149.3	

THIS PAGE

PAGE
42**"T" ACCOUNT - SPECIAL EQUIPMENT**

PHR 1.2-27

GARRARD 00000555



JOB NO. & TITLE _____

CONSTR. DATES 10/80 TO 4/82

CLIENT _____

PREPARED BY M. GAUDWAY

"T" - SPECIAL EQUIPMENT

JOB LOCATION _____

M. MILLER

PLT. NO.	EQUIP. NO.	SERVICE	DESCRIPTION AND DIMENSIONS	DRIVER HP	WEIGHT TONS	FINAL MAN HOURS		DIRECT COST \$1000	
						Bechtel	S/C	Bechtel Matl.	S/C L & M
16	T-24	ELECTRIC O/H	10 TON X 56' LIFT, 15' SPAN, SPEED: 2/0.75	BRIDGE	12			49.3	
		CRANE FOR	BRIDGE 150/50 FPM, TROLLEY 50 FPM	1	TROLLEY				
		16K-2 COMP.	HOIST 22 FPM	15	HOIST				
			TOTAL WGT =		2.9T				
16		HOSE HOUSES	6 EA - HOSE HOUSES INCL. METCD		1.2T	CLIENT-		7.6	
			HOSE STORAGE HOUSE, FIRE HOSE						
			PAIRS, FOAM NOZZLE ETC.						
* 16	T-31	TROLLEY FOR 16K-7	1/2T X 8' DROP, HAND GEARED 912 X 31.8 P.E.A.M			100		0.5	
*	T-32	" " 16K-8	" " " " " " " "			100			
	T-28	" " 16E-25	" X 10' DROP, " " " "			12		0.5	
	T-33	" " 16E-26	" X 10' DROP, " " " "			12			
*	T-29	" " 16K-5	1T X 25' DROP " " " "			100		0.6	
*	T-30	" " 16K-6	" " " " " " " "			100			
	T-26	" " 16E-23	2T X 8' DROP, PUSH TYPE, " " "			12		0.3	
	T-27	" " 16E-24	" X 10' " " " " " "			12			
↓	T-25	AIR MOTOR HOIST	1T X 85' LIFT, HAND GEARED (DELETED)			DELETED		2.9	
ALL OTHERS						(EA)			
TOTALS						460		61.7	

* NOTE: MOUNTING BRACKETS ON T-29-31 HAD TO BE REPLACED DUE TO POOR DESIGN.

THIS PAGE

JOB NO. & TITLE 14053 R RMPCONSTR. DATES 10/30 TO 4/82CLIENT MARATHON OIL COMPANYPREPARED BY M. MILLER**"T" — SPECIAL EQUIPMENT**JOB LOCATION ROBINSON ILL.

PLT. NO.	EQUIP. NO.	SERVICE	DESCRIPTION AND DIMENSIONS	DRIVER HP	WEIGHT TONS	FINAL MAN HOURS		DIRECT COST, \$ 1000	
						Bechtel	S/C	Bechtel Matl.	S/C L & M
16		CHEM. ADD. SKID 1	INCLUDES 16D-10, 16G-5 AND 16G-38			90		W/16G-5 & 16G-38	
		CHEM. ADDITIVE SKID #2	INCLUDES 16D-3, 16G-12 & 16G-13A/B			90		W/16G-12 & 16G-13A/B	
		CHEM. ADDITIVE SKID #4	INCLUDES 16D-5, 16G-16A/B			90		W/16G- 16A/B	
V		CHEM. ADDITIVE SKID #5	INCLUDES 16D-4, 16G-17A/B, 16G-18			90		W/16G-17A/B & 16G-18	
ALL OTHERS						() EA			
TOTALS						360			



JOB NO. & TITLE _____

CONSTR. DATES 10/80 TO 4/82

CLIENT _____

PREPARED BY M. GAULOWAY/M. MILLER**"T" — SPECIAL EQUIPMENT**

JOB LOCATION _____

PLT. NO.	EQUIP. NO.	SERVICE	DESCRIPTION AND DIMENSIONS	DRIVER HP	WEIGHT TONS	FINAL MAN HOURS		DIRECT COST \$ 1000	
						Bechtel	S/C	Bechtel Matl.	S/C L & M
116	T-34	TROLLEY FOR 16E-1	5 TON X 14' 58 X 12.4 BEAM			12			
	T-35	" " "	" " " " "			12			
	T-36	" " "	" " " " "			12		2.4	
	T-37	" " "	" " " " "			12			
	T-38	" " "	" " " " "			12			
	T-39	" " "	" " " " "			12			
116	Y-1	ETHYLENE DICHLORIDE FILTER	CARTRIDGE, 316 SS WOVEN WIRE MESH	2.7 GAL/Hr		10			
	Y-3	" " "	" " " " "	3.5 " "		10		1.1	
	Y-7	INSTRUMENT PREPURATION FILTER	CARTRIDGE	250 SCFH		10			
	Y-8	" " "	" " " " "	" " "		10			
	Y-9	" " "	" " " " "	" " "		10		0.1	
	Y-4	STEAM VENT SILENCER	4"-600" RF (750°F) 85 DRA @ 50'			10		4.8	
	Y-5	STEAM ATTENUATOR	8" 600" RF X 90000" HR			10		3.3	
	H-1	STEAM DETECTOR	EVALUATES 35000 CF/Hr			40		1.8	
ALL OTHERS						182		13.5	
TOTALS						1075		224.5	
TOTAL PLANT 116									

"T" ACCOUNT — SPECIAL EQUIPMENT

PHR 1.2-27

JOB NO. & TITLE 14053 RRIMPCONSTR. DATES 10/80 TO 4/82CLIENT WABASH OIL COMPANYPREPARED BY B. HODGSON**"T" - SPECIAL EQUIPMENT**JOB LOCATION ROBINSON ILLINOIS

PLT. NO.	EQUIP. NO.	SERVICE	DESCRIPTION AND DIMENSIONS	DRIVER HP	WEIGHT TONS	FINAL MAN HOURS		DIRECT COST \$ 1000	
						Bechtel	S/C	Bechtel Matl.	S/C L & M
23		CHEM ADD SKID #1	INCLUDES 23D-3, LG-24 AND 23G-10	.25		37	-	INCL w/ LG-10	
23		CHEM ADD SKID #2	INCLUDES 23D-4, LG-25 AND 23G-11	.25		37	-	INCL w/ LG-11	
29		CORROSION INHIBITOR SKID	INCLUDES 29D-1, LG-59 AND 29G-3	.25		12	-	INCL w/ LG-3	
ALL OTHERS						() EA			
TOTALS						86	-		



JOB NO. & TITLE _____

CONSTR. DATES _____ TO _____

CLIENT _____

PREPARED BY _____

"T" - SPECIAL EQUIPMENT

JOB LOCATION _____

PLT. NO.	EQUIP. NO.	SERVICE	DESCRIPTION AND DIMENSIONS	DRIVER HP	WEIGHT TONS	FINAL MAN HOURS		DIRECT COST \$ 1000	
						Bechtel	S/C	Bechtel Matl.	S/C L & M
32	Y-6	SIDE STREAM SAND FILTER	CARBON STEEL TANK 13 1/2' ϕ x 19' x 1/4" THK W/ GRADED SAND & ANTHRACIL MEDIA, 1060 GPM CAPACITY		30	44	129	72.3	3.8
	K-1	AIR SCOURING BLOWER	750 SCFM @ 3 PSIG, 1800 RPM	25 MOTOR		12	16		.5
32	T-1	TROLLEY FOR SUMP SCREENS	1' x 10' DROP, PUSH TYPE, SIZE 3/8 BEAM			29	-	0.8	
	T-2	TROLLEY FOR CHLORINE CYLINDERS	4' x 8' DROP, HAND GEARED, SIZE 3/8 BEAM			29	-	1.0	
TOTAL THIS PAGE						114	145	74.1	4.3
ALL OTHERS						() EA			
TOTALS						165	225	129.8	6.6
TOTAL PLANT 32						6 ^{EA}			

"T" ACCOUNT - SPECIAL EQUIPMENT

PHR 1.2.27



JOB NO. & TITLE 14053 RRMP
 CLIENT MARATHON OIL COMPANY
 JOB LOCATION ROBINSON, ILLINOIS

CONSTR. DATES 10/80 TO 4/82
 PREPARED BY M. MILLER

"J" - INSTRUMENTS

MATL. REQ.	LABOR CODE	INSTRUMENT ACCOUNT DESCRIPTION	INSTALLED QUANTITIES	(1000) FINAL MAN HOURS		DIRECT COST \$1000	
				Bechtel	S/C	Bechtel Matl.	S/C L & M
-	J01	PREFAB. INSTRUMENT SUPPORTS		1.4			
J11		TRANSMITTERS, RECEIVERS, AND CONTROLLERS	1229 EA			1004.0	
J12		FLOW INSTRUMENTS	EA			84.1	
J14	J10	LEVEL INSTRUMENTS J-10 = PREASSEMBLE X-MITTERS (2044 MHRS)	1668 EA	25.3	1.1	142.2	32.6
J16		PRESSURE INSTRUMENTS	EA			300.7	
J18		TEMPERATURE INSTRUMENTS	EA			53.0	
J19		MISCELLANEOUS INSTRUMENTS J-17 = 119, J-19 = 610	729 EA			105.0	
J21	J21	MAIN CONTROL PANEL & RACK	6 EA	.6	-	3231.2	
J22	J22	MAIN PANEL INSTRUMENTS ANNUNCIATORS	1110 UNITS	1.2	-	.1	
J26	J26	PROCESS CONTROL COMPUTER	70 UNITS	.3	-	659.9	
J31	J31	LOCAL CONTROL PANELS	2300 UNITS	.9		189.0	
J32	J32	LOCAL PANEL MOUNTED INSTRUMENTS	EA			-	
J41	"L" ACCT	CONTROL VALVES	EA			573.0	
J43	"L" ACCT	PRESSURE REGULATORS	EA			.7	
J44	"L" ACCT	RELIEF VALVES	EA			146.0	
J50	J50	INSTRUMENT SHELTERS	277 EA	2.6	.1	150.6	3.0
J60	J60	ANALYZERS	19 EA	.6	.1	366.0	3.0
J65	J60	PACKAGE CONTROL SYSTEMS	EA			-	
J71	J71	SINGLE TUBING	13558 LF	4.4	1.5	5.8	44.4
J72	J72	MULTITUBING	- LF	-	-	-	
J95	J95		- LF	.4	-	-	
J74	J74	INSTRUMENT AIR SUBHEADERS	9190 LF	5.2	.5	-	14.8
J75	-	INSTALLATION MATERIALS	LOT			469.0	
-	J81	LOOP CHECK	EA	15.2	1.2		33.6
-	J82	CALIBRATE & TEST	EA	7.6	-		
TOTALS			SURPLUS	-	-	<100.0>	
				65.7	4.5	7400.3	131.4

J" ACCOUNT - INSTRUMENTS



JOB NO.& TITLE 14053 RRMP

CLIENT MARATHON OIL COMPANY

JOB LOCATION ROBINSON, ILLINOIS

CONSTR. DATES 10/80 TO 4/82

PREPARED BY M. MILLER

PAGE 32

"M" ACCOUNT – STRUCTURAL STEEL

PHR 1.2-30



**"N" - INSULATION
& FIREPROOFING**

JOB NO. & TITLE 14053 RRMP

CLIENT MARATHON OIL COMPANY

JOB LOCATION ROBINSON, ILLINOIS

CONSTR. DATES 10/80 TO 4/82

PREPARED BY M. GALLOWAY

MATL REQ.	LABOR CODE		AVERAGE DIAMETER	AVERAGE THICKNESS	FITTING FACTOR	INSTALLED QUANTITIES	FINAL MAN HOURS		DIRECT COST \$1000	
							Bechtel	S/C	Bechtel Matl.	S/C L & M
N1*	N10	PIPE INSULATION				139942 ELF	18	55857	3.5	1850.3
		% CAL SIL <u>98%</u>	<u>4"</u>	<u>2 1/2"</u>	<u>1.47</u>					
		% MINERAL FIBER <u>2%</u>	<u>30"</u>	<u>6"</u>	<u>1.24</u>					
		% OTHER <u>-</u>								
N1*	N20	EQUIPMENT INSULATION				41679 SF	303	17829	0.3	731.0
		% CAL SIL <u>30.2%</u>		<u>2 1/2"</u>						
		% MINERAL WOOL <u>67.7%</u>		<u>3"</u>						
		% INSULATING CONCRETE <u>2.1%</u>		<u>2 1/2"</u>						
N30	N30	FIREPROOF EQUIPMENT SUPPORTS HANDBERSEAL P-50 (2")				17236 SF		3993	-	113.2
		(PNEUMATICALLY APPLIED)								
N40	N40	FIREPROOF STRUCTURAL STEEL HANDBERSEAL P-50 (2")				3915 CF		4125	0.1	116.8
		(PNEUMATICALLY APPLIED)								
N50	N50	MISCELLANEOUS FIREPROOFING				LF				
N60	N60	SOUND PROOFING				SF				
		WELDING FIREPROOFING LUGS TO VESSEL SKIRTS				17236 SF	1809	10	1.8	0.3
TOTALS							2130	81814	5.7	2811.6

"N" ACCOUNT - INSULATION & FIREPROOFING

PHR 1.2-31

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GARRARD 00000564

JOB NO. & TITLE 14053 RRMPCONSTR. DATES 10/80 TO 4/82CLIENT MARATHON OIL COMPANY

PREPARED BY _____

"R" - BUILDINGSJOB LOCATION ROBINSON, ILLINOIS

MATL. REQ.	LABOR CODE	FOR ALL PERMANENT BUILDINGS	INSTALLED QUANTITIES	FINAL MAN HOURS		DIRECT COST \$1000	
				Bechtel	S/C	Bechtel Matl.	S/C L & M
<u>116 R0100</u>	<u>A16 R20</u>	DESCRIPTION AND USE <u>PLT. 16 SATELLITE CONTROL ROOM</u>		<u>1300</u>		<u>2.4</u>	
		NO. STORIES <u>1</u> SQ. FOOTAGE <u>763</u> SF CU. FOOTAGE <u>8635</u>					
		MATERIALS OF CONSTRUCTION <u>8" CONCRETE BLOCK</u>					
		HVAC DESCRIPTION <u>AIR HANDLING UNIT, 91525 BTUH & 4420 CFM</u>			<u>887</u>		<u>53.6</u>
		ROOF TYPE					
		OTHER DETAILS					
		MISC. PAINTING			<u>31</u>		<u>0.7</u>
			<u>S/T</u>	<u>1300</u>	<u>918</u>	<u>2.4</u>	<u>54.3</u>
<u>116 R3000</u>	<u>B23 R95</u>	DESCRIPTION AND USE <u>REVAMP OFFPLOT SWITCH GEAR RM.</u>		<u>756</u>	<u>-</u>	<u>17.0</u>	<u>-</u>
<u>116 R4000</u>		<u>11'-4" X 17'-4" X 12'-0"</u>					
<u>116 R4000</u>		NO. STORIES <u>1</u> SQ. FOOTAGE <u>196</u> SF CU. FOOTAGE <u>2356</u>					
<u>116 R9000</u>		MATERIALS OF CONSTRUCTION <u>2 1/2" BRICK</u>					
<u>116 R0100</u>							
		HVAC DESCRIPTION			<u>112</u>		<u>7.1</u>
		ROOF TYPE					
		OTHER DETAILS <u>REPLACE EXISTING DOORS WITH NEW</u>					
		<u>STEEL DOORS. BREAK THRU & LATER REPAIR HOLES</u>					
		<u>FOR BUS DUCT & CONDUIT ENTRY</u>					
		Carry Forward From Pages _____ Through _____	<u>S/T</u>	<u>756</u>	<u>112</u>	<u>17.0</u>	<u>7.1</u>
TOTALS			<u>S/T THIS PAGE</u>	<u>2056</u>	<u>1030</u>	<u>19.4</u>	<u>61.4</u>

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"R" ACCOUNT - BUILDINGS

PHR 1.2-34

GARRARD 00000565

JOB NO. & TITLE 14053 RRMPCONSTR. DATES 10/80 TO 1/82CLIENT MARATHON OIL COMPANYPREPARED BY M. MILLER/M. GALLOWAY**"R" - BUILDINGS**JOB LOCATION ROBINSON, ILLINOIS

MATL. REQ.	LABOR CODE	FOR ALL PERMANENT BUILDINGS	INSTALLED QUANTITIES	FINAL MAN HOURS		DIRECT COST \$1000	
				Bechtel	S/C	Bechtel Matl.	S/C L & M
116 RD300	AI6 R10	DESCRIPTION AND USE <u>PLT. 16 BOILER FEED WATER BLDG.</u>		650	-	1.5	
		<u>16'-4" X 13'-4" X 12'-0"</u>					
		NO. STORIES <u>1</u> SQ. FOOTAGE <u>218</u> SF CU. FOOTAGE <u>2612</u>					
		MATERIALS OF CONSTRUCTION <u>8" CONCRETE BLOCK</u>					
		HVAC DESCRIPTION <u>UNIT HEATER UH-3 & 1240 CFM EXTRACTION FAN 1/4 HP MOTOR</u>			94		6.6
		ROOF TYPE <u>BUILT-UP ROOF ON 1 1/2" METAL DECK</u>			24		1.3
		OTHER DETAILS <u>ROLL-UP DOOR</u>					
			S/T	650	118	1.5	7.9
116 RD300	B 32 R 10	DESCRIPTION AND USE <u>CHEMICAL INJECTION BLDG.</u>		1302		8.1	
116 RD100		<u>23'-4" X 29'-4" X 11'-6"</u>					
		NO. STORIES <u>1</u> SQ. FOOTAGE <u>684</u> CU. FOOTAGE <u>7869</u>					
		MATERIALS OF CONSTRUCTION					
		<u>8" CONCRETE BLOCK</u>					
		HVAC DESCRIPTION <u>UNIT HEATERS UH-1 & UH-2 & ROOF EXHAUST FAN</u>			171		9.8
		ROOF TYPE <u>STEEL FRAME, G. DECKING, BUILT-UP ROOF</u>			72		4.1
		OTHER DETAILS <u>ROLL UP DOOR</u>					
		Carry Forward From Pages _____ Through _____	S/T	1302	243	8.1	13.9
TOTALS				S/T THIS PAGE	1952	361	9.6 21.8

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"R" ACCOUNT - BUILDINGS

PHR 1.2-34

JOB NO. & TITLE 14053 RRMPCONSTR. DATES 10/80 TO 4/82CLIENT MARATHON OIL COMPANYPREPARED BY H. MILLER / M. GALLOWAY**"R" - BUILDINGS**JOB LOCATION ROBINSON, ILLINOIS

MATL. REQ.	LABOR CODE	FOR ALL PERMANENT BUILDINGS	INSTALLED QUANTITIES	FINAL MAN HOURS		DIRECT COST \$1000	
				Bechtel	S/C	Bechtel Matl.	S/C L & M
126 RO100	250-RO1	DESCRIPTION AND USE CENTRAL CONTROL ROOM		1806	5773	3.1	438.0
126 RA000		MODIFICATION OF EXIST. CAFETERIA FOR TDC CONSOLES					
		NO. STORIES SQ. FOOTAGE CU. FOOTAGE					
		MATERIALS OF CONSTRUCTION					
		INSTALL WATER CHILLER			64		6.4
		MISC. PAINTING			116		2.7
		OTHER DETAILS DIRECT HIRE MNRS CHARGES MAINLY FOR					
		RE-POSITIONING OF RAISED FLOOR & SUSPENDED CEILING					
		TILES FOR ELECTRICAL EQUIPMENT ACCESS	S/T	1806	5953	3.1	447.1
116 RO200	A16-RO3	DESCRIPTION AND USE PLANT 16 ELECTRICAL SUB-STATION		1345	-	25.0	-
		35'-4" X 24'-4" X 12'0"					
		NO. STORIES 1 SQ. FOOTAGE 860 SF CU. FOOTAGE 10320 CF					
		MATERIALS OF CONSTRUCTION 2 1/2" BRICK					
		HVAC DESCRIPTION AIR HANDLING UNIT 3200 CFM (3HP MOTOR)			97		6.6
		ROOF TYPE BUILT-UP ON PRECAST CONC. UNITS			72		4.1
		OTHER DETAILS					
		Carry Forward From Pages _____ Through _____	S/T	1345	169	25.0	10.7
TOTALS				3151	6122	28.1	457.8
S/T THIS PAGE							

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"R" ACCOUNT - BUILDINGS

PHR 1.2-34

GARRARD 00000567

JOB NO. & TITLE 14053 RRMPCONSTR. DATES 10/80 TO 4/82CLIENT MARATHON OIL COMPANYPREPARED BY H. MILLER/M. GALLOWAY**"R" - BUILDINGS**JOB LOCATION ROBINSON ILLINOIS

MATL. REQ.	LABOR CODE	FOR ALL PERMANENT BUILDINGS	INSTALLED QUANTITIES	FINAL MAN HOURS		DIRECT COST \$1000	
				Bechtel	S/C	Bechtel Matl.	S/C L & M
		DESCRIPTION AND USE REVAMP HVAC IN EXISTING					
		SATELLITE CONTROL ROOMS					
		NO. STORIES — SQ. FOOTAGE — CU. FOOTAGE —					
		MATERIALS OF CONSTRUCTION —					
		CONTROL ROOM # 3: 10 TON A/C UNIT (15000 BTUH)			225		23.0
		CONTROL ROOM # 4: REWORKED DUCTING			36		2.3
		COKE CONTROL ROOM: 7 1/2 TON A/C UNIT (80300 BTUH)			148		7.8
			S/T	-	409	-	33.1
		DESCRIPTION AND USE					
		NO. STORIES SQ. FOOTAGE CU. FOOTAGE					
		MATERIALS OF CONSTRUCTION					
		HVAC DESCRIPTION					
		ROOF TYPE					
		OTHER DETAILS					
		Carry Forward From Pages _____ Through _____					
TOTALS				7159	7922	57.1	574.1

TOTAL "R"

"R" ACCOUNT - BUILDINGS

PHR 1.2-34

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GARRARD 00000568



JOB NO. & TITLE 14053 RRMP
 CLIENT MARATHON OIL COMPANY
 JOB LOCATION ROBINSON, ILLINOIS

CONSTR. DATES 10/80 TO 4/82
 PREPARED BY M. MILLER

"S" - SITE WORK

MATL. REQ.	LABOR CODE		INSTALLED QUANTITIES	(1000) FINAL MAN HOURS		DIRECT COST \$1000	
				Bechtel	S/C	Bechtel Matl.	S/C L & M
S01	S01	CLEARING AND GRUBBING	AC				
S02	S02	STRIPPING AND ROUGH GRADING	CY				
S03	S03	DEWATERING	4970 BMHRS	9.0			
S11	S11	EXCAVATION } Clarify Qty. Basis and Construction Methods :	11216 CY	17.1			
S12	S12	BACKFILL }	13557 CY	14.1		164.5	
S11	S11	MASS EXCAVATION AND DISPOSAL	17967 CY		4.5		193.1
S12	S12	MASS BACKFILL, COMPACTION & LIME STABILIZATION	9695 CY		6.1		406.8
S20	S20	PILING	LF				
S31	S31	SEWERS AND DRAINS	6230 LF	11.9		221.2	0.2
S32	S32	PRECAST MANHOLES AND CATCHBASINS	39 EA	4.5		24.3	
S41	S41	FINE GRADING	74962 SF	3.3		18.6	
S42	S42	PLACE & LEVEL SUB BASE	SF				
S43	S43	ASPHALT PAVING	SF				
S51	S51	DIKES	CY				
S52	S52	FENCING (MATERIAL ONLY)	LF			2.1	
S59	S59	LANDSCAPING	SF				
S80	S98	MISCELLANEOUS SITEWORK S-98 DEMOLITION	100 UNITS	6.6		1.1	
		DEMOLITION OF EXISTING PIPERACK INCL. A/G & U/G PIPE }			1.9		82.5
		EXCAVATION FOR NEW FOUNDATIONS & U/G PIPE }					
TOTALS				66.5	12.5	431.8	682.6

CONSTR. DATES 10/80 TO 4/82
PREPARED BY M. GALLOWAY

"X" — PAINTING

JOB LOCATION ROBINSON, ILLINOIS

MATL. REQ.	LABOR CODE		INSTALLED QUANTITIES	(1000) FINAL MANHOURS		DIRECT COST \$ 1000	
				Bechtel	S/C	Bechtel Matl.	S/C L & M
-	-	PAINTING SUBCONTRACT					
		Structural Steel	SF		BY CLIENT		
		Piping	SF		BY CLIENT		
		Major Equipment	74010 SF		3.4		111.9
		All Other	SF				
X10	-	FURNISH PAINTING MATERIALS	GAL			1.3	
-	X11	PAINT STRUCTURAL STEEL (Direct Labor)	SF				
-	X12	PAINT PIPING (Direct Labor)	SF				
-	X13	PAINT MAJOR EQUIPMENT (Direct Labor)	SF				
-	X14	PAINT ALL OTHER (Direct Labor)	SF				
TOTALS				-	3.4	1.3	111.9

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"X" ACCOUNT — PAINTING

PHR 1.2-36

GARRARD 00000570



JOB NO. & TITLE 1A053 RRMP
CLIENT MARATHON OIL COMPANY
JOB LOCATION ROBINSON, ILLINOIS

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CONSTR. DATES 10/80 TO 4/82
PREPARED BY M. MILLER

MATL. REQ.	LABOR CODE		INSTALLED QUANTITIES	(1000) FINAL MAN HOURS		DIRECT COST \$1000	
				Bechtel	S/C	Bechtel Matl.	S/C L & M
P11	P11	DISTRIBUTION EQUIPMENT	11 EA	.8		263.6	
		Substation 1 - EA					
		Power Transformers 5 - EA					
		15 KV Switchgear 2 - EA					
		BATTERY BUILDING 1 - EA					
		BATTERIES & CHARGER 1 - LOT					
P12	P12	POWER & CONTROL EQUIPMENT	503 EA	12.4		844.6	
		5KV & 600V Switchgear - EA					
		Motor Control Centers - EA					
		- EA					
		- EA					
		- EA					
	P16	PROGRAMMABLE CONTROLLER	105 EA	.7		-	
P13	P13	EMERGENCY AND STANDBY EQUIPMENT	20 EA	2.1		147.1	
P14	P14	LIGHTING EQUIPMENT	978 EA	5.5		155.2	
P15	P15	OTHER ELECTRICAL EQUIPMENT	204 EA	3.9		724.2	
P20 & P21		PURCHASE RIGID METALLIC CONDUIT	LF			456.5	
	P21	INSTALL RIGID A/G METALLIC CONDUIT P20 & P21	234,800 LF	124.0			
	P22	INSTALL RIGID U/G METALLIC CONDUIT	510 LF	1.6			
P23	P23	NON-METALLIC CONDUIT - UNDERGROUND	21,146 LF	4.7		31.0	
P24	P24	THINWALL METALLIC CONDUIT	- LF			-	
	P21-24	Subtotal Installed Conduit 0.49 MHRS / LF	261,656 LF	130.3			
P25	P25	CABLE TRAYS AND CHANNELS	13,224 LF	17.9		105.0	
P29		INSTALLATION MATERIALS	LOT			280.5	
P31	P31	600V & 1000V WIRE	494,646 LF	13.5		187.8	
P33	P33	ELECTRONIC AND THERMOCOUPLE WIRE P30 & P31	428,576 LF	20.8		239.8	
	P31 + P33	Subtotal Wire 0.038 MHRS / LF	923,223 LF	34.3			
P32	P32	5KV & OVER CABLE	34385 LF	2.5		59.7	

[illegible]

"P" ACCOUNT – ELECTRICAL

PHR 1.2-32

GARRARD 00000571



"L" - PIPING

JOB NO. & TITLE 14053 RRMP
 CLIENT MARATHON OIL COMPANY
 JOB LOCATION ROBINSON, ILLINOIS

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 CONSTR. DATES 10/80 TO 4/82
 PREPARED BY M. MILLER

MATL. REQ.	LABOR CODE		INSTALLED QUANTITIES	(1000) FINAL MAN HOURS		DIRECT COST \$1000	
				Bechtel	S/C	Bechtel Matl.	S/C L & M
	L01	FIELD FABRICATE CS PIPE-2" & UNDER	LF	0	0		
	L02	FIELD FABRICATE CS PIPE-2 1/2" & OVER	LF				
	L03	FIELD FABRICATE ALLOY PIPE-2" & UNDER	LF				
	L04	FIELD FABRICATE ALLOY PIPE - 2 1/2" & OVER	LF				
	L05	FIELD FABRICATE SPECIALITY PIPE	LF				
	L09	FIELD FABRICATE PIPE HANGERS AND SUPPORTS	INCL. EA				
	L11	INSTALL A/G CS PIPE-2" & UNDER (L-10 & L-11)	70315 LF	125.0	32.8		956.4
		INSTALL A/G ST. RUN CS PIPE-2 1/2" - 6"	LF				
	L13	INSTALL A/G ST. RUN CS PIPE-8"-12" L-17	42470 LF	38.5	4.0		116.6
	L14	INSTALL A/G ST. RUN CS PIPE-14"-24" LG. BORE RACK PIPE	LF				
	L15	INSTALL A/G ST. RUN CS PIPE-26" & OVER	LF				
	L11-15	SUBTOTAL	LF				
	L16	INSTALL A/G SPOOLED CS PIPE-2 1/2" - 6"	LF				
		INSTALL A/G SPOOLED CS PIPE-8"-12" L-12	48280 LF	167.9	32.3		941.8
	L18	INSTALL A/G SPOOLED CS PIPE-14"-24" LG. BORE C.S. SPOOLS	LF				
	L19	INSTALL A/G SPOOLED CS PIPE-26" & OVER	LF				
	L16-19	SUBTOTAL	LF				
	L70	INSTALL U/G CS PIPE	5834 LF	12.0	.7		20.4
	L11-19 + L70	TOTAL INSTALLED A/G & U/G CS PIPE	166899 LF	343.4	69.8		2035.2
L-11	L-12	PURCHASE CS PIPE SM. & LG. BORE	198792 LF				1132.2
L01		FABRICATE CS SPOOLED PIPE	LF				2660.0
L11 + L01		TOTAL PURCHASED CS PIPE L-01, L-11, & L-12	LF				3792.2
L12		PURCHASE CS FITTINGS & FLANGES L-1310 & L-1320	49950 EA				392.9
L151		PURCHASE CS VALVES-SCREWED & SW L-1500	7451 EA				264.5
L152		PURCHASE CS VALVES-FLANGED & BW L-1600	2372 EA				1260.0
L17		PURCHASE CS PIPE SPECIALITIES L-1800	3536 EA				245.0
		PIPEWAY RELOCATION-U/G & A/G CS PIPE	U/G: 3885 LF A/G: 4140 LF		5.3		232.0

MATL. REQ.	LABOR CODE		INSTALLED QUANTITIES	(1000) FINAL MAN HOURS		DIRECT COST \$1000	
				Bechtel	S/C	Bechtel Matl.	S/C L & M
	L21	INSTALL ALLOY PIPE-2" & UNDER	2062 LF	1.0	2.8		81.5
	L22	INSTALL ST. RUN ALLOY PIPE-2 1/2"-6"	LF				
	L23	INSTALL ST. RUN ALLOY PIPE-8"-12"	LF				
	L24	INSTALL ST. RUN ALLOY PIPE-14"-24"	LF				
	L25	INSTALL ST. RUN ALLOY PIPE-26" & OVER	LF				
	L21-25	SUBTOTAL	LF				
	L26	INSTALL SPOOLED ALLOY PIPE-2 1/2"-6"	LF				
	L27	INSTALL SPOOLED ALLOY PIPE-8"-12" L-22 LG. BORE	2169 LF	27.3	-		
	L28	INSTALL SPOOLED ALLOY PIPE-14"-24" ALLOY SPOOLS	LF				
	L29	INSTALL SPOOLED ALLOY PIPE-26" & OVER	LF				
	L26-29	SUBTOTAL	LF				
	L21-29	TOTAL INSTALLED ALLOY PIPE	4231 LF	28.3	2.8		81.5
		CHEMICAL CLEANING OF COMPRESSOR PIPING			2.4		45.7
L-21	L-22	PURCHASE ALLOY PIPE SM. & LG. BORE	4030 LF				54.0
L02		FABRICATE ALLOY SPOOLED PIPE	LF				858.0
L21 + L02		TOTAL PURCHASED ALLOY PIPE	LF				912.0
L-27		PURCHASE ALLOY SPECIALITIES	23 EA				156.0
L-23		PURCHASE ALLOY FITTINGS & FLANGES	84 EA				24.0
L-25		PURCHASE ALLOY VALVES-SCREWED & SW	639 EA				39.9
L-26		PURCHASE ALLOY VALVES-FLANGED & BW	34 EA				20.0
L-34		SPECIALTY PIPING	LF	-	-		5.0
L80	L80	STEAM TRACING INCL. PLT. 16 PEKATRACE * FOCUS	59566 LF	15.5	11.8		341.8
L91	L91	STRESS RELIEF	2417 PI	3.0	0.4		28.2
L92	L92	RADIOGRAPHY, DYE CHECK, MAGNAFLUX	EA	0.8	1.7		48.6
	L93	REVAMP & TIE-IN WORK	50 EA	.8	.1		2.9
L94	L94	HANGERS & SUPPORTS	EA				410.0
L95		BOLTS & GASKETS	LOT				130.1
	L98	TEST & INSPECT	193153 LF	19.0	6.2		180.8
	L99	MATERIAL HANDLING INCL. W/ WAREHOUSE	LOT				
		BACKCHARGES & MISC. S/C ACCTS.			5.7		
		SURPLUS					2150.0
	TOTALS		LF	416.5	100.5		7843.4

"L" ACCOUNT - PIPE

* NOTE: - PURCHASED 38,262 LF OF PEKATRACE AT \$ 2.65/LF



JOB NO. & TITLE 14053 RRMP
 CLIENT MARATHON OIL COMPANY
 JOB LOCATION ROBINSON, ILLINOIS

PAGE 2

CONSTR. DATES 10-80 TO 4-82
 PREPARED BY M. MILLER

"Q" - CONCRETE WORK

MATL. REQ.	LABOR CODE		INSTALLED QUANTITIES	(1000) FINAL MAN HOURS		DIRECT COST \$1000	
				Bechtel	S/C	Bechtel Matl.	S/C L & M
	Q01	FABRICATE REBAR	55 T	2.6			
	Q02	FABRICATE FORMS	SF				
Q10		PURCHASE CONCRETE @ 52.68/CY PER COCO →	14124 CY			741.4	
	Q11	PLACE FDN. CONC FOR EQUIPT., STRUCT & PIPEWAYS	5937 CY	16.9			
	Q12	PLACE STRUCTURAL CONCRETE	2389 CY	9.5			
	Q13	PLACE BUILDING SUBSTRUCTURE CONCRETE	CY				
	Q14	PLACE BUILDING SUPERSTRUCTURE CONCRETE	CY				
	Q61	PLACE PRECAST CONCRETE	581 CY	2.4			
	Q71*	PLACE CONCRETE PAVING	62570 SF 1159 CY	7.0			
	Q72	MISC. CAST IN PLACE CONCRETE	EA CY				
	Q73	PLACE U/G CONDUIT ENVELOPE	932 CY	5.5			
	Q74	PLACE SEAL SLABS Q-15	333 CY	.2			
	Q75	PLACE ALL OTHER CONCRETE Q-40 COMPOSITE	294 CY	4.6			
	Q11-75	SUBTOTAL CONCRETE INSTALLED OR = 3.97 MHRS/LF	11625 CY	46.1			
Q2*		PURCHASE FOUNDATION REBAR PER COCO →	1205 T			465.2	
	Q21	PLACE FOUNDATION REBAR	471 T	17.7			
	Q22	PLACE STRUCTURAL REBAR	351 T	23.2			
	Q23	PLACE BUILDING SUBSTRUCTURE REBAR	T				
	Q24	PLACE BUILDING SUPERSTRUCTURE REBAR	T				
	Q62	PLACE REBAR FOR PRECAST CONCRETE	167 T	5.7			
	Q21-24 + Q62	SUBTOTAL 47.11 MHRS / TON	989 T	46.6			
		ALL OTHER REBAR (PAVING, ENVELOPES, ETC.)	INCL. T				
		TOTAL REBAR INSTALLED	989 T				
		* Q-71- ASSUME 6" SLAB, INCLUDES WIRE MESH					

MATL. REQ.	LABOR CODE		INSTALLED QUANTITIES	(1000) FINAL MAN HOURS		DIRECT COST \$1000	
				Bechtel	S/C	Bechtel Matl.	S/C L & M
Q3*		PURCHASE FORMS & FORM MATERIAL	SF			344.0	
	Q31	PLACE & STRIP FOUNDATION FORMS	55867 SF	43.3			
	Q32	PLACE & STRIP STRUCTURAL FORMS	76439 SF	58.1			
	Q33	PLACE / STRIP BUILDING SUBSTR. FORMS	SF				
	Q34	PLACE & STRIP BUILDING SUPERSTR FORMS	SF				
	Q63	PLACE & STRIP PRECAST CONC.	20556 SF	15.6			
	Q31-34 + Q63	SUBTOTAL 0.77 MHRS / SF	152862 SF	117.0			
		ALL OTHER FORMWORK	SF				
		TOTAL FORMWORK	152862 SF				
Q4*		FURNISH ANCHOR BOLTS/ EMBEDS	LB			193.2	
Q64		PURCHASE PRECAST STRUCT COMPONENTS	EA			11.0	
	Q69	PLACE PRECAST STRUCT CONC. ITEMS	583 CY	10.8			
Q90		FURNISH SHIMS & GROUT	LOT			41.1	
		CONCRETE & SOILS TESTING					14.4
		FOUNDATIONS FOR PIPEWAY RELOCATION	100 CY	1.4			60.5
TOTALS				223.1	1.4	1795.9	74.9

"Q" ACCOUNT - CONCRETE WORK

PHR 1.2-33

GARRARD 00000573

1.4 MANUAL MANPOWER DATA

Month Ending _____
By A.T. Date 03-18-82 (Hpn 5-18-82)
Supt. Review _____ Date _____

MAN MONTHS • 162 M HRS. (AVG)		AVERAGE FORCE																								MAN MONTHS				
CRAFT	ORIG. BUDGET ACTUAL/TO GO	DATE																								ORIG. BUDGET	ACTUAL	TO GO	FORE- CAST	
		1980			1981			1981			1982			1982			1982			1982										
		OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUN.								
BOILERMAKER							-	4	6	12	25	25	25	33	57	57	86	83	27	28	0									
BRICKLAYER						1	-	-	-	-	2	3	2	-	-	4	1	-	-	1	0									
CARPENTER			4	8	15	18	27	43	51	92	106	104	64	69	51	62	78	92	73	46	4									
CEMENT-FINISHER					1	3	5	5	4	8	12	16	10	9	6	4	5	4	8	7	0									
ELECTRICIAN		12	43	80	89	70	69	112	84	76	112	152	156	133	121	110	104	178	174	154	29									
IRON WORKER				3	13	14	23	44	50	79	92	84	70	64	64	60	33	20	21	16	3									
LABORER			5	11	23	27	41	60	61	101	117	149	85	77	72	82	89	120	105	112	12									
MILL WRIGHT										1	6	14	11	8	7	8	13	22	24	20	0									
OPERATING ENGR.			1	4	9	12	18	22	29	42	52	59	65	62	69	71	76	68	48	33	4									
PAINTER																														
PIPEFITTER			1	3	9	14	18	24	31	38	62	87	126	172	226	330	392	380	251	135	5									
PIPE WELDER				1	1	2	3	5	8	13	18	35	39	60	88	97	149	160	138	70	3									
TEAMSTER			1	4	6	9	13	15	16	20	23	23	23	21	23	22	15	18	18	16	3									
SURVEYOR, CHAINMAN					3	3	6	6	6	7	5	7	5	5	4	6	5	5	4	2	1									
TOTAL MANUAL	% O. B. EXP. ACTUAL TO GO	12	55	114	169	173	223	346	346	489	632	758	681	713	788	913	1046	1150	891	640	64									
SUBCONTRACTORS	% O. B. EXP. ACTUAL TO GO	40	46	40	30	31	28	3	2	7	3	5	15	16	25	27	123	205	252	274	113									
TOTAL MANPOWER	% O. B. EXP. ACTUAL TO GO	52	101	154	199	204	251	343	348	496	635	763	696	729	813	940	1169	1355	1143	714	177									



JOB NO. 14053
 DESCRIPTION RPMP
 CLIENT MARATHON OIL
 LOCATION ROBINSON, IL.

**LABOR DISTRIBUTION
 AND
 FINAL PRODUCTIVITY**

PAGE 2

CONST. DATES 10/80 TO 4/82
 PREPARED BY M. MILLER
D. LEE

ACCOUNT	DESCRIPTION	DISTRIBUTION		PRODUCTIVITY		
		FINAL MANHOURS	PERCENT	FINAL PERFORMANCE	BUDGET PRODUCTIVITY	FINAL PRODUCTIVITY
C	Columns & Vessels	24,282	1.4%	1.79	1.65	2.95
D	Tanks	111	—	0.55		0.91
E	Exchangers	13,735	0.8%	1.27		2.10
F	Fired Heaters	86,516	4.8%	2.82		4.65
G	Pumps & Drivers	9,921	0.6%	0.82		1.35
K	Compressors	16,606	0.9%	0.78		1.29
T	Special Equipment	1,933	0.1%	0.30		0.50
	SUBTOTAL MAJOR EQUIPMENT	153,104	8.6%	1.61	1.65	2.66
J	Instruments	70,277	4.0%	0.48	1.4	0.67
L	Piping	507,218	28.5%	1.61	1.8	2.90
M	Structural Steel	60,772	3.4%	1.35	1.5	2.03
N	Insulation (BECHTEL ONLY)	2,140	0.1%	1.00	—	—
P	Electrical	269,102	15.1%	0.81	1.6	1.30
Q	Concrete	223,047	12.5%	1.68	1.6	2.69
R	Buildings	7,159	0.4%	2.12	—	—
S	Site Improvements	66,510	3.8%	1.19	1.75	2.08
X	Painting	18	—	1.00	—	—
	SUBTOTAL OTHER DIRECTS	1206,243	67.8%	1.17	1.63	1.91
Y	SCAFFOLDING	126,666	7.1%	2.66	0.1(L+P)	0.16(L+P)
	SUBTOTAL DIRECTS	1486,013	83.5%	1.27	1.63	2.07
6X	Offshore Related	—				
71	Temporary Facilities	60,632	3.4%			
72	Miscellaneous Services	206,633	11.6%			
73	Tools & Equipment	—				
74	Field Office	—				
75	Other Operations	26,588	1.5%			
	SUBTOTAL DISTRIBUTABLES	293,353	16.5%			
	TOTAL PROJECT	1779866	100%			



JOB NO. 14053
 DESCRIPTION RRMP
 CLIENT MARATHON OIL CO.
 LOCATION ROBINSON, IL.

MANUAL LABOR CRAFT DISTRIBUTION BY LETTER GROUP

CONST. DATES 10/80 TO 4/82
 PREPARED BY D. LEE / M. MILLER

	BM		CARP		CM&BL		ELECT		IW		LAB		MW		OE		PF		TEAM		SV		S/C CHARGING TO DIRECTS		TOTAL
	%	M HRS	%	M HRS	%	M HRS	%	M HRS	%	M HRS	%	M HRS	%	M HRS	%	M HRS	%	M HRS	%	M HRS	%	M HRS	%	M HRS	MANHOURS
"C"	58.1	14223	.9	224	3.7	404	.4	156	.5	120	2.3	559	.2	47	20.4	4946	7.4	1799	5.1	1238	-	.3	.3	66	24282
"D"	7.2	8	-	-	-	-	-	-	2.7	3	8.1	9	-	-	3.6	4	57.7	64	12.6	14	-	-	8.1	9	111
"E"	26.3	3613	.5	74	1.9	260	-	2	9.1	1243	.6	78	5.7	779	10.3	1416	38.4	5277	5.1	699	-	-	2.1	294	13735
"F"	40.8	43941	.2	131	.7	585	1.0	854	10.9	9428	2.5	2160	3.0	2598	13.7	11840	10.9	9433	1.4	1260	-	-	4.9	4286	86516
"G"	.1	8	2.7	267	5.9	588	.1	5	-	-	3.0	297	57.1	5721	2.4	243	13.7	1359	1.3	131	-	-	13.1	1302	9921
"K"	-	-	2.2	368	2.8	458	10.0	1655	.1	13	2.3	393	54.0	8963	7.5	1245	12.1	2015	1.0	166	-	-	8.0	1330	16606
"T"	-	-	2.7	53	2.3	44	1.6	30	5.8	112	2.4	46	23.8	461	12.3	237	32.8	635	.8	15	-	-	15.5	300	1933
SUBTOTAL	10.4	61793	.7	1117	1.9	2839	1.8	2702	7.1	10919	2.3	3542	12.1	18569	13.0	19931	13.4	20582	2.3	3523	-	-	5.0	7587	153104
"J"	-	-	.1	85	.2	152	31.1	21863	.1	40	.2	140	-	-	.1	47	61.7	43331	.1	91	-	-	6.4	4528	70277
"L"	-	144	.1	259	.2	887	.4	2027	.2	914	.7	3307	-	48	7.0	35796	73.0	37043	.5	2685	-	-	17.7	90688	507218
"M"	9.7	5871	.1	49	.7	414	1.6	987	61.9	37614	.8	615	4.1	2473	14.0	8544	4.1	2480	2.8	1722	-	-	.2	103	60772
"N"	8.7	1791	-	-	-	-	-	-	.6	12	-	-	-	-	15.1	324	-	-	.1	3	-	-	.5	10	2140
"P"	-	-	.3	749	.1	355	91.3	261798	.1	241	.9	2296	-	38	.6	1661	.2	532	.5	1432	-	-	-	-	269102
"Q"	-	3	32.1	71527	5.3	11852	-	92	20.5	59045	20.8	59806	.1	130	4.3	14115	.3	728	2.6	5729	-	-	-	-	223047
"R"	-	-	22.0	1576	19.8	1417	3.5	247	15.7	1125	34.1	2440	-	-	1.0	75	3.3	236	.6	43	-	-	-	-	7159
"S"	-	-	.2	142	1.5	997	1.7	1121	.1	50	52.4	34967	-	-	19.4	12770	20.6	13692	4.1	2763	-	-	-	8	66510
"X"	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.0	18	-	-	-	-	-	-	-	-	18
SUBTOTAL	.4	7809	16.2	74381	1.3	16074	13.3	288135	8.2	99041	8.6	103471	.2	2709	6.1	73350	35.0	431462	1.2	14448	-	-	7.9	95337	1206243
"Y"	.7	928	10.0	75877	-	14	.4	510	.9	1188	32.5	4459	-	-	.1	176	4.0	5105	1.4	1709	-	-	-	-	126666
TOTAL DIRECT	4.7	70530	12.2	151381	1.3	18927	12.6	291347	7.5	111148	10.0	148172	1.4	21278	6.3	93457	32.8	457149	1.3	19700	-	-	6.9	102724	1481013
DISTR.	1.4	4201	5.9	17352	.2	655	14.5	42509	5.0	14587	27.1	79725	.1	345	10.0	29415	21.4	62921	9.8	28828	4.4	12824	.2	491	293853
TOTAL MANUAL	4.2	74731	9.5	168733	1.1	19582	18.8	33386	7.1	125735	12.8	227897	1.2	21623	2.9	122872	2.1	520070	2.7	48528	.7	12824	5.8	103415	1779866

CRAFT DISTRIBUTION

PHR 1.4-3

PAGE

(1)

GARRARD 00000577



JOB NO. 14053
 DESCRIPTION RRMP
 CLIENT MARATHON OIL CO.
 LOCATION ROBINSON, ILL.

CRAFT WAGE RATE DEVELOPMENT

CONST. DATES 10/80 TO 4/82
 PREPARED BY M. MILLER

FROM 10/80 - 4/82

CRAFT	SIZE OF FORCE		FINAL MANHOURS	% OF TOTAL	OVERTIME AS % OF TOTAL CRAFT MANS.	ABSENT- EISM	CRAFT AVERAGE WAGE RATE				CURRENT JOURNEYMAN BASE RATE (B) AS OF 4-23-82	A ÷ B
	AVERAGE	PEAK					BASE (A)	FRINGES PLUS T & I	TRAVEL	TOTAL		
BOILERMAKERS	24.6	86	74,731	4.2%	2.41%	14 %	17.69	4.99	1.11	23.79	17.05	1.04
CARPENTERS	52.8	106	168,733	9.5%	3.36%	8 %	14.64	3.58	—	18.22	13.87	1.06
CEMENT MASONS	5.6	16	17,753	1.0%	4.96%	12 %	13.56	3.40	—	16.96	13.80	0.98
ELECTRICIANS	106.8	178	333,856	18.8%	2.15%	10 %	15.27	4.26	—	19.53	16.00	0.95
IRONWORKERS	39.5	92	125,735	7.1%	0.59%	11 %	13.89	5.64	—	19.53	14.15	0.98
LABORERS	70.4	149	227,897	12.8%	2.30%	9 %	11.36	2.55	—	13.91	11.20	1.01
MILLWRIGHTS	7.1	24	21,623	1.2%	2.16%	11 %	15.14	3.58	—	18.72	14.47	1.05
OPER. ENGINEERS	38.9	76	122,872	6.9%	5.26%	5 %	13.22	3.29	—	16.51	14.65	0.90
PAINTERS												
PIPEFITTERS/WELDERS	167.7	541	520,070	29.2%	4.41%	13 %	17.25	4.22	—	21.47	16.80	1.03
SURVEYORS	4.2	7	12,824	0.7%	—	—	10.56	3.68	—	14.24	10.93	0.97
TEAMSTERS	15.1	23	48,528	2.7%	1.69%	6 %	13.55	4.14	—	17.69	13.45	1.01
BRICKLAYERS	0.7	4	1,829	0.1%	0.11%	—	15.36	2.68	—	18.04	15.10	1.02
TOTALS: BECHTEL	533.4	1150	1,676,451	94.2%	3.14%	11 %	15.05	4.04	0.00	19.09	15.03	1.00
S/C'S ON BECHTEL ACCTS.			103,415	5.8%								
TOT. DIRECTS. & DISTRIB.			1,779,866	100 %								



JOB NO. 14053
 JOB DESCRIPTION RMP
 CLIENT MARATHON OIL COMPANY
 LOCATION ROBINSON, ILLINOIS

DISTRIBUTABLES
 Dollars in Thousands

PAGE 1
 CONST. DATES 10/80 TO 1/82
 PREPARED BY C. JACKSON

ACCOUNT	DESCRIPTION	MANHOURS				DOLLARS				% OF DIRECT LABOR DOLLARS		REMARKS
		BECHTEL	SUB-CONTRACT	TOTAL	TOTAL AS A % OF BECHTEL DIRECT MHRS	MATERIAL	LABOR	SUBCONTRACT (Matl. & Labor)	TOTAL	MATERIAL AND SUB-CONTRACT	TOTAL	
71.XX	TEMPORARY CONSTRUCTION FACILITIES											
71.10	TEMPORARY BUILDINGS	14.2	9.8	24.0	1.6	149.0	251.2	410.9	811.1	2.1	3.0	BECHTEL DIRECT MHRS \$ 5/CTEM MHRS 1489,837
	Field Offices 4 Ea. 14.9 Total SF											
	Warehouses 1 Ea. 13.0 Total SF											
	Change Houses 18 Ea. 12.8 Total SF											
	All Other 3 Ea. .6 Total SF											DIRECT LABOR \$ = \$ 26837.4
	Total 26 Ea. 51.3 Total SF											
71.20	TEMPORARY WORK AREAS & BAYS	6.2		6.2	.4	42.3	109.7		152.0	.2	.6	
71.30	TEMPORARY ROADS, WALKS, PARKING, FENCES	3.9	1.4	5.3	.4	49.8	69.0	51.9	170.7	.4	.7	
71.40	TEMPORARY RAILROAD & BARGE UNLOADING											
71.50	TEMPORARY POWER, LIGHT & COMMUNICATION	19.0	3.0	22.0	1.4	184.9	336.0	73.7	594.6	1.0	2.2	
71.60	TEMPORARY AIR, WATER & SEWAGE	2.5	1.3	3.8	.3	40.0	44.2	50.4	140.6	.3	.5	
71.70	MINOR TEMPORARY CONSTRUCTION	3.5	.4	3.9	.3	18.7	61.9	6.7	87.3	.1	.3	
71.80	SCAFFOLDING, CRIBBING, DUNNAGE					250.0			250.0	.9	.9	
71.90	WINTERIZATION & WEATHER PROTECTION	11.3	.3	11.6	.8	53.3	199.9	13.2	266.4	.2	1.0	
71.XX	TOTAL TEMP. CONST. FACILITIES	60.6	16.2	76.8	5.2	788.0	1071.9	612.8	2472.7	5.2	9.2	
72.XX	MISCELLANEOUS CONSTRUCTION SERVICES											
72.10	GENERAL & FINAL JOB CLEAN UP	44.0	.5	44.5	3.0		778.2	14.0	792.2	.1	3.0	
72.20	MAINTENANCE OF TOOLS & EQUIPMENT	22.5		22.5	1.5	135.0	398.0		533.0	.5	2.0	
72.31	MATERIAL HANDLING	13.9	.5	14.4	1.0		245.8	7.4	253.2	.0	.9	
72.32	WAREHOUSING	74.8		74.8	5.0		1323.0		1323.0	.0	4.9	
72.40	SECURITY											
72.50	UNALLOCATED SERVICE LABOR	27.8	.5	28.3	1.9		491.7	8.1	499.8	.0	1.9	
72.60	ON & OFF EXPENSES	9.8		9.8	.7	11.2	173.3		184.5	.0	.7	
72.70	SURVEYING	13.4	.5	13.9	.9	7.7	237.0	8.5	253.2	.1	.9	
72.80	ON SITE TRANSPORTATION											
72.XX	TOTAL MISC. CONST. SERVICES	206.2	2.0	208.2	14.0	153.9	3647.0	38.0	3838.9	.7	14.3	
73.XX	CONSTRUCTION EQUIPMENT & TOOLS											
73.10	CONSTRUCTION EQUIPMENT											
	Bechtel Equipment Rentals					1308.0			1308.0	4.9	4.9	
	Third Party Rentals - Bare					914.0			914.0	3.4	3.4	
	Third Party Rentals - Operated & Maintained					12.3		1.0	13.3	.1	.1	
	Job Owned Equipment Cost 153.2 Resale 10.0					83.2			83.2	.3	.3	
	Subtotal Const. Equipment					2317.5		1.0	2318.5	8.7	8.7	
73.21	SMALL TOOLS PURCHASE Cost 297.3 Resale 127.0					170.3			170.3	.6	.6	
73.22	RENTAL TOOLS PURCHASE Cost 3.8 Resale 3.0					6.8			6.8	.0	.0	
73.30	FREIGHT ON CONST. EQUIP. & TOOLS					153.6			153.6	.6	.6	
73.40	CONSUMABLE SUPPLIES - WELD ROD & GAS					330.0			330.0	1.2	1.2	
	CONSUMABLE SUPPLIES - UNIT PRICE					958.5			958.5	3.6	3.6	
	SMALL TOOLS - UNIT PRICE					958.5			958.5	3.6	3.6	
73.50	PURCHASED UTILITIES					79.6			79.6	.3	.3	
73.XX	TOTAL CONST. EQUIPMENT & TOOLS					4974.8		1.0	4975.8	18.6	18.6	

DISTRIBUTABLES

PHR 1.5-1

GARRARD 00000579



JOB NO. 14053
JOB DESCRIPTION RRMP
CLIENT MARATHON OIL COMPANY
LOCATION ROBINSON, ILLINOIS

DISTRIBUTABLES
Dollars in Thousands

PAGE 2
CONST. DATES 10/80 TO 1/82
PREPARED BY C. JACKSON

ACCOUNT	DESCRIPTION Bechtel Direct Manhours _____ Direct Labor Dollars _____	MANHOURS				DOLLARS				% OF DIRECT LABOR DOLLARS		REMARKS
		BECHTEL	SUB- CONTRACT	TOTAL	TOTAL AS A % OF BECHTEL DIRECT MHRS	MATERIAL	LABOR	SUBCONTRACT (Mat. & Labor)	TOTAL	MATERIAL AND SUB- CONTRACT	TOTAL	
74.XX	FIELD OFFICE											
74.1X	NON-MANUAL											
74.11	Supervision	35.8		35.8	2.4		748.9		748.9		2.8	
74.12	Engineering	71.0		71.0	4.8	.2	998.7		998.9	.0	3.7	
74.13	Project Control	29.7		29.7	2.0		354.0		354.0		1.3	
74.14	Administration	84.4	.1	84.5	5.7	.2	765.7	12.2	778.1	.0	2.9	
74.15	Warehousing & Purchasing	38.1		38.1	2.5		385.8		385.8		1.4	
74.16	Computer Services											
74.17												
74.18	TPC CONSTRUCTION	38.1		38.1	2.5		512.7		512.7		1.9	
74.19	TPC DESIGN	53.5		53.5	3.6		818.5		818.5		3.1	
	SUBTOTAL NON-MANUAL	350.6	.1	350.7	23.5	.4	4584.3	12.2	4596.9		17.1	
	Paid Absences											
	Social & Retirement Benefits						1540.7		1540.7		5.7	
	Taxes and Insurance											
	SUBTOTAL											
	Completion Bonus											
	Foreign Service Premium											
	Hardship Allowance											
	Cost Differential											
	Education and Other											
	SUBTOTAL											
74.30	MEDICAL & SAFETY SUPPLIES					7.0			7.0	.0	.0	
74.40	PERSONNEL TRAINING AIDS											
74.51	COMPUTER EQUIPMENT & SOFTWARE					98.4			98.4	.4	.4	
74.52	COMPUTER OUTSIDE SERVICES					5.4			5.4	.0	.0	
74.53	COMPUTER SUPPLIES					13.6			13.6	.1	.1	
74.61	OFFICE SUPPLIES					90.2			90.2	.3	.3	
74.62	OFFICE EQUIPMENT					112.5			112.5	.4	.4	
74.63	REPRODUCTION SUPPLIES					40.7			40.7	.2	.2	
74.64	TELEPHONE, TELEGRAPH, POSTAGE					182.3			182.3	.7	.7	
74.71	RELOCATION EXPENSE					673.8			673.8	2.5	2.5	
74.72	TRAVEL & ENTERTAINMENT					346.1			346.1	1.3	1.3	
74.XX	TOTAL FIELD OFFICE	350.6	.1	350.7	23.5	1570.4	6125.0	12.2	7707.6	5.9	28.7	
75.	OTHER OPERATIONS											
75.10	WELDERS TESTS	7.4		7.4	.5	54.2	130.9		187.1	.2	.7	
75.20	CRAFT TRAINING	1.5		1.5	.1	.3	26.5		26.8	.0	.1	
75.30	SHOW UP TIME	17.4		17.4	1.2		307.8		307.8	.0	1.1	
75.40	VOTING & OTHER TIME OFF	.2		.2	.0		3.5		3.5	.0	.0	
75.50	MANUAL TRAVEL					.4			.4	.0	.0	
75.60	STATE & LOCAL TAXES											
75.70	PERMITS											
75.80	PROJECT INSURANCE					50.0			50.0	.2	.2	
75.90	PRELIMINARY STARTUP OPERATIONS											
75.XX	TOTAL OTHER OPERATIONS	24.5		24.5	1.8	104.9	468.7		575.6	.4	2.1	
60.XX	TOTAL REMOTE & OFFSHORE ASSOC. COSTS											
	TOTAL DISTRIBUTABLES	643.9	18.3	662.2	44.5	7594.0	11312.6	644.0	19570.6	30.8	72.9	

DISTRIBUTABLES

PHR 1.5-2

GARRARD 00000580



JOB NO. & TITLE 14053-000 ROBINSON REFINERY
CLIENT MODERNIZATION PROJECT
JOB LOCATION MARATHON OIL CO.,
ROBINSON, ILL.

CONSTR. DATES OCTOBER, 1980 TO APRIL, 1982
PREPARED BY _____

[illegible]

CONSTRUCTION EQUIPMENT SCHEDULE

PHR 1.5-3

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GARRARD 00000581



CONSTRUCTION EQUIPMENT SCHEDULE

Job Owned, Bechtel Rental & Third Party Rental

JOB NO. & TITLE 14053-000 ROBINSON REFINERY
MODERNIZATION PROJECT
CLIENT MARATHON OIL CO.
JOB LOCATION ROBINSON, ILL.

CONSTR. DATES OCTOBER, 1980 TO APRIL, 1982
PREPARED BY

EQUIPMENT DESCRIPTION	EQUIPMENT COUNT BY PERIOD																								PURCHASED EQUIPMENT		RENTAL EQUIPMENT					
																									Purchase Cost	Less Resale	Total Months	Average Rental \$/Mo.	RENTAL COST			
	1980					1981										1982																
	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J								
FLATBED TRAILERS													4	8	15	16	17	23	23	14	7	2								129	270	34,830
BOX TRAILER													1	1	1	1	1	1	1	1	1	1							9	75	670	
OFFICE TRAILER (CIPS)														1	1	1	1	2	2	2	2								12	115	1,380	
MAECO FLATBED 40 ft.													1	1	1	1	1	1											7	250	1,750	
FLATBED TRAILERS								3	4	9	9	9	9	9	9	9	9	9	9	9	9	3	3			36,000	(16400)					
COMPACTOR WACKER RAMP						4	4	4	6	8	8	8	8	8	4	4	4	4	1	1	1								77	60	4,620	
COMPACTOR VIBRO PLATE						2	2	2	2	2	3	4	4	6	4	1	1	1											34	125	4,250	
CRAWLER DOZER							1	1	1	1	1	1	1	1															8	1230	9,840	
FRONT END LOADER W/RUBBER TIRE, BACKHOE							1	2	2	2	4	4	4	2	1	1	1	1	1	1	1								28	1000	28,000	
FRONT END LOADER CRAWLER - 450B CASE							1	1	1	1	1	1	1	1	1	1	1												11	1370	15,070	
HYDRAULIC GRADALL CRAWLER - 660							1	1	1	1	1	1	1	1	1														9	2500	22,500	
BACKHOE																	1												1	900	900	
50 TON STEERING TRAILER & BOOSTER											1	1	1	1															4	500	2,000	
BOBCAT												1	1																2	750	1,500	
6 TON DROTT PICKER														1	1	1													3	1250	3,750	
8 TON PICKER														1	1	1	1	1	1	1	1								8	1000	8,000	
10 TON CHERRY PICKER						1	1	1	1	1	1	1	1	1	1	1	2	2	2										17	1300	22,100	
12-14 TON PICKER											3	4	4	5	5	5	3	2	2										33	1450	47,850	
15, 18, 20 TON PICKER						2	2	2	2	4	6	8	9	10	12	14	14	13	10	7	6	2							137	2250	308,250	
50 TON PICKER												1	1	4	4	4	4	3	3	2									26	5500	143,000	
70-85 TON CRANES								1	1	3	3	7	7	7	7	7	7	4	2	1	1								51	6000	306,000	
140 TON HYDROLIC CRANE							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1							15	6500	97,500	
200 TON CRAWLER								2	2	2	2	2	2	2	2	2	2	2	2	2	1					3,200	(1500)	23	10500	241,500		
TOTALS THIS PAGE																										39,200	(17900)					1,305,260

CONSTRUCTION EQUIPMENT SCHEDULE

PHR 1.5-3

PAGE

GARRARD 00000582



Job Owned, Bechtel Rental & Third Party Rental

JOB NO. & TITLE 14053-000 ROBINSON REFINERY
MODERNIZATION PROJECT
 CLIENT MARATHON OIL CO.
 JOB LOCATION ROBINSON, ILL.

CONSTR. DATES OCTOBER, 1980 TO APRIL, 1982
PREPARED BY _____

[illegible]

CONSTRUCTION EQUIPMENT SCHEDULE

PHR 1.5-3

PAGE

GARRARD 00000583



CONSTRUCTION EQUIPMENT SCHEDULE
Job Owned, Bechtel Rental & Third Party Rental

JOB NO. & TITLE _____
CLIENT _____
JOB LOCATION _____

CONSTR. DATES OCTOBER, 1980 TO APRIL, 1982
PREPARED BY _____

EQUIPMENT DESCRIPTION	EQUIPMENT COUNT BY PERIOD																																PURCHASED EQUIPMENT		RENTAL EQUIPMENT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	1980												1981												Purchase Cost	Less Resale	Total Months	Average Rental \$/Mo.	RENTAL COST																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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CONSTRUCTION EQUIPMENT SCHEDULE

PHR 1.5-3

PAGE 5

GARRARD 00000584

1.5 DISTRIBUTABLES

CONSTRUCTION NONMANUAL MANPOWER AND MANHOURS

JOB 14053 DESCRIPTION ROBINSON REFINERY MODERNIZATION PROJECT LOCATION ROBINSON, ILLINOIS
CUTOFF DATE _____

I. NONMANUAL MANHOUR SUMMARY

TO DATE _____
TO GO _____
FORECAST _____

II. NONMANUAL MANPOWER SUMMARY

	1980												1981											
	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
LOCAL HIRE							2	4	11	14	17	21	27	28	29	30	32	34	34	32	32	32	32	33
PERMANENT HIRE CONSTRUCTION						6	7	13	20	21	23	28	41	42	56	65	68	70	67	66	66	62	62	65
PERMANENT HIRE SERVICES							1	5	6	14	14	14	15	15	15	16	17	17	16	16	18	17	18	18
TOTAL						6	10	22	37	49	54	63	83	85	100	111	117	121	117	114	116	111	112	116

	1982												—											
	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
LOCAL HIRE	34	34	32	29	24	13	5																	
PERMANENT HIRE CONSTRUCTION	62	65	60	50	36	8	3																	
PERMANENT HIRE SERVICES	17	17	18	14	8	8	5																	
TOTAL	113	116	110	93	68	29	13																	

BECHTEL CORPORATION



**LOCAL HIRE
* HOUSTON PAYROLL

Job No. 14053

NON-MANUAL LABOR SCHEDULE

MONTH ENDING _____

BY _____ DATE _____

CHECKED _____ DATE _____

REVIEWED _____ DATE _____

PAGE 9 OF _____

ACCOUNT FIELD ENGINEERING

M MO. @ _____ M HRS/MO

CLASSIFICATION		SCHEDULED PERIOD																								TO GO																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
		1980												1981												1982															M MO.	M HRS.	\$																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
		M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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GARRARD 00000588

BECHTEL CORPORATION



** LOCAL HIRE
* HOUSTON PAYROLL

Job No. 14053

NON-MANUAL LABOR SCHEDULE

MONTH ENDING _____

BY _____ DATE _____

CHECKED _____ DATE _____

REVIEWED _____ DATE _____

PAGE 11 OF _____

ACCOUNT ADMINISTRATION AND OTHER SUPPORT PERSONNEL

M MO. @ _____ M HRS/MO

CLASSIFICATION			SCHEDULED PERIOD																								TO GO		
			1980						1981						1982												M MO.	M HRS.	\$
			M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A			
7	PROJ. ACCT. SUPV.																										24		
74	SR. ACCOUNT																										22		
75	PAYROLL SUPV.																										24		
76	PAYABLES SUPV.																										20		
77	ACC. ASSISTANT **																										21		
78	INTERNAL CLERK **																										15		
79	DIR. ACCT. MAT'L																										21		
80	CHF. TIMEKEEPER																										19		
81	TIMEKEEPER **																										18		
82	TIMEKEEPER																										9		
83	INT. CLERK **																										20		
84	INT. CLERK **																										24		
85	TIMEKEEPER **																										15		
86	SECRETARY **																										23		
87	CLERK TYPIST **																										16		
88	TELE. OPER/SEC'Y **																										19		
129	TIMEKEEPER **																										14		
126	CLERK TYPIST **																										16		
131	INT. CLERK **																										9		
132	TIMEKEEPER **																										10		
133	TIMEKEEPER **																										4		
8	LAB. RELATIONS																										19		
9	SAFETY SUPV.																										19		
73	FIELD NURSE **																										16		
112	SAFETY REP. **																										12		
113	SAFETY REP.																										12		
68	SECRETARY **																										22		
69	SENIOR TYPIST **																										19		
114	CLERK/TYPIST **																										15		
134	TIMEKEEPER																										4		
Total Account ADMINISTRATION																													

GARRARD 00000590

BECHTEL CORPORATION



** LOCAL HIRE
* HOUSTON PAYROLL

Job No. 14053

NON-MANUAL LABOR SCHEDULE

MONTH ENDING _____

BY _____ DATE _____

CHECKED _____ DATE _____

REVIEWED _____ DATE _____

PAGE 13 OF _____

ACCOUNT _____ PROCUREMENT

M MO. @ _____ M HRS/MO

CLASSIFICATION			SCHEDULED PERIOD																								TO GO																
			1980				1981				1982								M MO.	M HRS.	\$																						
			M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A					
6	FIELD PROCUREM'T MGR.																																								22		
62	PUR. SPEC.																																								19		
63	SR. EXPEDITOR																																								14		
64	MAT. SUPV/FMCS																																								18		
65	PROCUREMENT SUPV.																																								12		
66	PUR. SPEC.																																								21		
67	PROJECT EXPEDITER																																								16		
95	FMCS CLERK	**																																							22		
71	SECRETARY	**																																							22		
72	CLERK/TYPIST	**																																							19		
110	CLERK/TYPIST	**																																							18		
115	CLERK/TYPIST	**																																							14		
136	MATRL. SPEC.																																								11		
137	MATRL. SUPV.																																								6		
138	PUR. SPEC.	*																																							4		

BECHTEL CORPORATION



**LOCAL HIRE
* HOUSTON PAYROLL

Job No. 14053
NON-MANUAL LABOR SCHEDULE

MONTH ENDING _____
BY _____ DATE _____
CHECKED _____ DATE _____
REVIEWED _____ DATE _____
PAGE 14 OF _____

ACCOUNT PROJECT CONTROLS

M MO. @ _____ M HRS/MO

CLASSIFICATION		SCHEDULED PERIOD																																				TO GO		
		1980												1981												1982												M MO.	M HRS.	\$
M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A					
5	PROJECT CONTROLS SUPV.																																			10				
55	LEAD COST ENG.																																			20				
56	COST/SCHD. ENG. PLTFRM.																																			17				
57	COST/SCHD. ENG. OFFPLT.																																			16				
59	DATA PROCESS																																			18				
60	K. P. O. **																																			17				
61	LEAD SCHED. ENG.																																			11				
70	COST TECHNICIAN **																																			20				
117	DISTRB/MAT'L COST ENG.																																			17				
127	K. P. O.																																			12				
118	AREA COST ENG. SUPV.																																			19				
	FIELD P & S ENG.																																			4				
Total Account PROJECT CONTROLS																																				181				

1 3 6 8 10 11 11 11 11 11 11 11 12 10 10 8 8 4 3

181

GARRARD 00000593

1.6 SUBCONTRACTS

JOB NO. & TITLE 14053-ROBINSON MODERNIZATION PROJECTCONSTR. DATES 10/80 TO 04/82CLIENT MARATHON OIL COMPANY

PREPARED BY _____

SUBCONTRACTS SUMMARYJOB LOCATION ROBINSON, ILLINOIS

S/C NO.	SUBCONTRACTOR	DESCRIPTION OF WORK	INSTALLED QUANTITIES	S/C MAN HOURS	S/C COSTS \$1000		
					MATL.	OTHER COSTS	TOTAL
1	Ledo Constr. Co.	Central Control Room & Temp. Field Office/Warehouse		10148	400.2	349.1	749.3
2	Potter Electric	Temporary Electrical Power		2648	14.1	40.8	54.9
3	Sheehan Pipeline Co.	Mobilization & Temporary Facilities		3205	-	48.7	48.7
5	Morris Constr. Co.	Relocate Pipeway incl. A/G & U/G pipe		11948	27.0	498.8	525.8
6	Faggetti & Associates	Concrete and Soils testing		-	-	14.4	14.4
8	Central Il. Public Serv.	1500 KVA substation for temp. power		376	11.3	7.5	18.8
9	Connor & Connor Inc.	Survey services		464	-	8.5	8.5
10	Reliance Truck Co.	Equipment for reactor erection		-	-	331.8	331.8
11	AAA Godfrey	Septic Tank services		-	-	8.2	8.2
13	MAECo	Plant 16 mass excavation		11317	142.5	484.4	626.9
14	Sheehan Pipeline	Temporary facilities and services		3323	-	50.5	50.5
15	S & S Inspection	Weld radiography for FSC-5			-	2.5	2.5
16	MAECo	Drill groundwells		1024	-	41.9	41.9
17	Potter Electric	Construction Equipment		-	-	0.6	0.6
18	Insulation & Materials	Thermal insulation of TDC-2000 instrument piping		6263	19.3	175.6	194.9
19	Sturm Heating and A/C	Temporary steam supply header		165	2.5	4.6	7.1
20	Fuller Trucking	Trash removal services		-	-	28.1	28.1
21	Brand Insulation, Inc.	Plant 16 Equipment and piping insulation		40656	646.0	970.0	1616.0
22	S & S Inspection, Co.	Weld Radiography		1662	-	46.1	46.1
23	Sturm Heating and A/C	HVAC for new buildings & control rooms		1770	67.6	49.2	116.8
TOTALS							
				TOTAL THIS PAGE	94969	1330.5	3161.3
						4491.8	

SUBCONTRACTS SUMMARY

PHR 1.6-1

JOB NO. & TITLE 14053-ROBINSON MODERNIZATION PROJECTCONSTR. DATES 10/80 TO 04/82CLIENT MARATHON OIL COMPANY

PREPARED BY _____

SUBCONTRACTS SUMMARYJOB LOCATION ROBINSON, ILLINOIS

S/C NO.	SUBCONTRACTOR	DESCRIPTION OF WORK	INSTALLED QUANTITIES	S/C MAN HOURS	S/C COSTS \$1000		
					MATL.	OTHER COSTS	TOTAL
24	A & M Insulation, Co.	Off Plot piping & equipment insulation		25167	280.0	420.0	700.0
26	Nooter Corporation	Install reactor internals		5927	-	212.8	212.8
27	MAECo	Temp. construction road south of Plant 16		80	3.4	6.0	9.4
28	Western Stress, Co.	Stress relieving		361	-	28.2	28.2
29	Gillispie & Powers, Inc	Install heater refractory		7531	-	275.6	275.6
30	Bac-Pritchard	Furnish and erect Cooling Tower		2502	165.8	50.2	216.0
31	Quality Fenco, Co.	Install gate in existing refinery fence		16	0.7	0.3	1.0
32	Sturm Heating & A/C	Water chiller for Central Control Room		64	4.8	1.6	6.4
33	General Electric, Co.	Electrical relay calibration		40	-	4.0	4.0
34	Martinsville Roofing	Install built-up composite roofing		168	5.2	4.3	9.5
35	Lark Commercial Painting	Equipment painting		2650	7.2	87.8	95.0
36	Halliburton Services	Chemical cleaning of compressor piping		2443	-	45.7	45.7
37	Lee Kinter & Sons	Asphalt spray of parking lot		16	0.6	0.6	1.2
38	Brooks Erection	Rework existing 29C-1		1106	7.2	49.6	56.8
39	MAECo	Snow removal		111	-	6.1	6.1
40	Lark Commercial Painting	Paint heater stacks		899	4.6	15.7	20.3
41	MAECo	Remove backfill for FSC-10		-	-	3.5	3.5
42	Morris Construction Co.	Pipefitter Labor		28854	-	844.0	844.0
43	Hoke Construction, Co.	Pipefitter Labor		36725	-	1072.0	1072.0
44	J. L. Allen, Co.	Pipefitter Labor		33046	-	960.0	960.0
TOTALS							
				TOTAL THIS PAGE	147706	479.5	4088.0
							4567.5

SUBCONTRACTS SUMMARY

PHR 1.6-1



CLIENT MARATHON OIL COMPANY

JOB LOCATION ROBINSON, ILLINOIS

PREPARED BY

S/C NO.	SUBCONTRACTOR	DESCRIPTION OF WORK	INSTALLED QUANTITIES	S/C MAN HOURS	S/C COSTS \$1000		
					MATL.	OTHER COSTS	TOTAL
45	Busch & Latta	Fireproofing steel & vessel supports		8118	114.5	115.5	230.0
46	Dunegan/Endevco	Acoustic Emissions Testing		338	-	31.7	31.7
47	Nelson & Keating	Pipefitters labor for loop checking		1173	-	33.6	33.6
48	Sheehan Pipeline, Co.	Demobilization		2200	-	50.0	50.0
49	Sheehan Pipeline, Co.	Boilermaker Labor		1696	-	49.9	49.9
50	Sheehan Pipeline, Co.	Boilermaker Labor		1699	-	49.9	49.9
51	Sheehan Pipeline, Co.	Boilermaker Labor		222	-	7.0	7.0
TSA-1	DR. PELLEY	Medical Services		122	-	12.2	12.2
52		Road Repairs		129	1.1	5.3	6.4
			SUBTOTAL	15697	115.6	355.1	470.7
TOTALS							
TOTAL SUBCONTRACTS				258372	1925.6	7604.4	9530.0

**BECHTEL INCORPORATED
REFINERY & CHEMICAL DIVISION
SUBCONTRACT ANALYSIS**

JOB NO. 14053 PROJECT Robinson Refinery Modernization
CLIENT Marathon Oil Company CONSTR. DATES 10/80 - 3/81
LOCATION Robinson, Illinois

SUBCONTRACT NO. & TYPE 14053-FSC-1 Lump Sum

NAME & ADDRESS OF SUBCONTRACTOR LeDo Construction Company, Inc.

609 North Jackson Street Robinson, Illinois 62454

COMPLETE DESCRIPTION OF CONTRACT Revamp of existing Cafeteria into Central Control Room for TDC-2000 and construction of temporary field office facilities

REMARKS Field Supervision very poor due to lack of experience and home office guidance. Bechtel was required to virtually direct most phases of the work in an effort to maintain schedule.

\$1,000's							
ACCT. NO.	DESCRIPTION & SPECIFICATION DATA	UNIT	QUANTITY	TOTAL DOLLARS	\$/UNIT	MANUAL MANHOURS	MH/UNIT
26R01	CENTRAL CONTROL ROOM	LOT	1	438.0	438.0	5773	5773
70110	TEMPORARY FIELD OFFICE/WAREHOUSE	LOT	1	311.3	311.3	4375	4375
TOTAL SUBCONTRACT				749.3		10148	

CONSTRUCTION EQUIPMENT USED				RATINGS	
None				1. HOME OFFICE SUPERVISION	Average
				2. FIELD SUPERVISION	Poor
				3. MATERIAL PROCUREMENT	Good
				4. SCHEDULING AND PLANNING	Poor
				5. PRICING AND PROCESSING CHANGES	Average
				6. SHOP DRAWINGS	Good
				7. LABOR RELATIONS	Good
				8. ADEQUACY OF EQUIPMENT	NA
				9. COOPERATION	Average
AVERAGE FORCE	10	PEAK FORCE	18	10. QUALITY OF WORK	Average

125

PROJECT	Robinson Refinery Modernization
CONSTR. DATES	8/80 - 1/81

COMPLETE DESCRIPTION OF CONTRACT Provide labor and material for temporary electrical construction as directed by Bechtel

\$1,000's							
ACCT. NO.	DESCRIPTION & SPECIFICATION DATA	UNIT	QUANTITY	TOTAL DOLLARS	\$/UNIT	MANUAL MANHOURS	MH/UNIT
70150	INSTALL TEMPORARY POWER FACILITIES	LOT	1	54.9	54.9	2648	2648
	TOTAL SUBCONTRACT			54.9		2648	

RCSC 5.17

BECHTEL INCORPORATED
REFINERY & CHEMICAL DIVISION
SUBCONTRACT ANALYSIS

JOB NO. 14053
CLIENT Marathon Oil Company
LOCATION Robinson, Illinois

PROJECT Robinson Refinery Modernization
CONSTR. DATES 08-12-80 thru 09-30-80

SUBCONTRACT NO. & TYPE 14053-FSC-3&14 TIME & MATERIAL

NAME & ADDRESS OF SUBCONTRACTOR Sheehan Pipeline Construction Company, P. O. Box 352,
1924 South Utica Avenue, Robinson, Illinois 62454

COMPLETE DESCRIPTION OF CONTRACT Construction of jobsite temporary facilities at the direction of Bechtel.

REMARKS All work as directed by Bechtel - Labor, Material & Rental Equipment
at cost plus 10%.

\$1,000's

ACCT. NO.	DESCRIPTION & SPECIFICATION DATA	UNIT	QUANTITY	TOTAL DOLLARS	\$/UNIT	MANUAL MANHOURS	MH/UNIT
70110	TEMPORARY BUILDINGS			49.6		3264	
70130	TEMPORARY ROADS AND PARKING			7.3		480	
70160	TEMPORARY WATER, AIR & SEWERS			20.1		1320	
70170	MINOR TEMPORARY CONSTRUCTION			6.7		440	
70231	FIRST DROP MATERIAL HANDLING			7.4		489	
70250	UNALLOCATED LABOR (JANITORIAL)			8.1		535	
	TOTAL SUBCONTRACT			99.2		6528	
CONSTRUCTION EQUIPMENT USED			RATINGS				
12½ Ton Mobile Crane			1. HOME OFFICE SUPERVISION	Excellent			
Case 580 Backhoe			2. FIELD SUPERVISION	Excellent			
Welding Machines			3. MATERIAL PROCUREMENT	Excellent			
Water Pump (3 inch)			4. SCHEDULING AND PLANNING	N/A			
			5. PRICING AND PROCESSING CHANGES	N/A			
			6. SHOP DRAWINGS	N/A			
			7. LABOR RELATIONS	Excellent			
			8. ADEQUACY OF EQUIPMENT	Excellent			
			9. COOPERATION	Excellent			
AVERAGE FORCE	6	PEAK FORCE	12	10. QUALITY OF WORK	Excellent		

BECHTEL INCORPORATED
REFINERY & CHEMICAL DIVISION
SUBCONTRACT ANALYSIS

JOB NO. 14053
CLIENT MARATHON OIL COMPANY
LOCATION ROBINSON, ILLINOIS

PROJECT ROBINSON REFINERY MODERNIZATION
CONSTR. DATES 10/80-02/81 PROJECT

SUBCONTRACT NO. & TYPE 14053-FSC-5 LUMP SUM

NAME & ADDRESS OF SUBCONTRACTOR MORRIS CONSTRUCTION COMPANY, INC.
P.O. BOX 3, TUSCOLA, ILLINOIS 61953

COMPLETE DESCRIPTION OF CONTRACT Relocate Plant 16 underground pipe; Relocate pipe rack; TDC-2000 Data Highway Civil and Structural work.

REMARKS

1,000's

[illegible]

**BECHTEL INCORPORATED
REFINERY & CHEMICAL DIVISION
SUBCONTRACT ANALYSIS**

JOB NO. 14053 PROJECT ROBINSON REFINERY MODERNIZATION
 CLIENT MARATHON OIL COMPANY CONSTR. DATES 11/80-02/82 PROJECT
 LOCATION ROBINSON, ILLINOIS

SUBCONTRACT NO. & TYPE 14053-FSC-6 UNIT PRICE
 NAME & ADDRESS OF SUBCONTRACTOR FAGGETTI AND ASSOCIATES
1700 E. MAIN STREET, OLNEY, ILLINOIS 62450

COMPLETE DESCRIPTION OF CONTRACT Perform soils and concrete testing.

REMARKS

1,000's

ACCT. NO.	DESCRIPTION & SPECIFICATION DATA	UNIT	QUANTITY	TOTAL DOLLARS	\$/UNIT	MANUAL MANHOURS	MH/UNIT
16099	CONCRETE AND SOILS TESTING	-	-	14.4	-	-	
TOTAL SUBCONTRACT				14.4		-	

CONSTRUCTION EQUIPMENT USED		RATINGS	
NONE		1. HOME OFFICE SUPERVISION	EXCELLENT
		2. FIELD SUPERVISION	EXCELLENT
		3. MATERIAL PROCUREMENT	EXCELLENT
		4. SCHEDULING AND PLANNING	EXCELLENT
		5. PRICING AND PROCESSING CHANGES	EXCELLENT
		6. SHOP DRAWINGS	NA
		7. LABOR RELATIONS	NA
		8. ADEQUACY OF EQUIPMENT	EXCELLENT
		9. COOPERATION	EXCELLENT
		10. QUALITY OF WORK	EXCELLENT
AVERAGE FORCE	PEAK FORCE		

**BECHTEL INCORPORATED
REFINERY & CHEMICAL DIVISION
SUBCONTRACT ANALYSIS**

JOB NO. 14053 PROJECT Robinson Refinery Modernization
 CLIENT Marathon Oil Company CONSTR. DATES 10/80 - 11/80
 LOCATION Robinson, Illinois

SUBCONTRACT NO. & TYPE 14053-FSC-8 Lump Sum
 NAME & ADDRESS OF SUBCONTRACTOR Central Illinois Public Service Company (CIPS)
711 South Ninth Street Mattoon, Illinois 61938

COMPLETE DESCRIPTION OF CONTRACT Supply and install 1500 KVA Substation for temporary construction power

REMARKS

\$1,000's							
ACCT. NO.	DESCRIPTION & SPECIFICATION DATA	UNIT	QUANTITY	TOTAL DOLLARS	\$/UNIT	MANUAL MANHOURS	MH/UNIT
70150	Supply and install Substation	Each	1	18.8	NA	376	NA
TOTAL SUBCONTRACT				18.8		376	

CONSTRUCTION EQUIPMENT USED		RATINGS	
		1. HOME OFFICE SUPERVISION	Excellent
		2. FIELD SUPERVISION	Excellent
		3. MATERIAL PROCUREMENT	Excellent
		4. SCHEDULING AND PLANNING	Excellent
		5. PRICING AND PROCESSING CHANGES	NA
		6. SHOP DRAWINGS	NA
		7. LABOR RELATIONS	Excellent
		8. ADEQUACY OF EQUIPMENT	Excellent
		9. COOPERATION	Good
AVERAGE FORCE	PEAK FORCE	10. QUALITY OF WORK	Excellent

**BECHTEL INCORPORATED
REFINERY & CHEMICAL DIVISION
SUBCONTRACT ANALYSIS**

JOB NO. 14053
CLIENT MARATHON OIL COMPANY
LOCATION ROBINSON, ILLINOIS

PROJECT ROBINSON REFINERY MODERNIZATION
CONSTR. DATES 02/82-03/82 PROJECT

SUBCONTRACT NO. & TYPE 14053-FSC-10 LUMP SUM

NAME & ADDRESS OF SUBCONTRACTOR RELIANCE TRUCK COMPANY
2500 N. 24th AVENUE, PHOENIX, ARIZONIA 85009

COMPLETE DESCRIPTION OF CONTRACT Provide Equipment and Supervision to offload, haul, rig and erect Platformer Reactor.

REMARKS

1,000's							
ACCT. NO.	DESCRIPTION & SPECIFICATION DATA	UNIT	QUANTITY	TOTAL DOLLARS	\$/UNIT	MANUAL MANHOURS	MH/UNIT
16C09	ERECT PLATFORMER REACTOR			319.1		-	
16C09	TEST WEIGHTS			13.7		-	
	(EXCLUDES BACKCHARGE FOR \$28,600 CREDITED TO BECHTEL LABOR AND CONSTRUCTION EQUIPMENT)						
TOTAL SUBCONTRACT				331.8		-	
CONSTRUCTION EQUIPMENT USED			RATINGS				
HEAVY LIFT CRANE			1. HOME OFFICE SUPERVISION	AVERAGE			
			2. FIELD SUPERVISION	EXCELLENT			
			3. MATERIAL PROCUREMENT	GOOD			
			4. SCHEDULING AND PLANNING	GOOD			
			5. PRICING AND PROCESSING CHANGES	AVERAGE			
			6. SHOP DRAWINGS	AVERAGE			
			7. LABOR RELATIONS	NA			
			8. ADEQUACY OF EQUIPMENT	GOOD			
			9. COOPERATION	AVERAGE			
AVERAGE FORCE	PEAK FORCE		10. QUALITY OF WORK	EXCELLENT			

**BECHTEL INCORPORATED
REFINERY & CHEMICAL DIVISION
SUBCONTRACT ANALYSIS**

JOB NO. 14053 PROJECT ROBINSON REFINERY MODERNIZATION
 CLIENT MARATHON OIL COMPANY CONSTR. DATES 09/80-04/82 PROJECT
 LOCATION ROBINSON, ILLINOIS

SUBCONTRACT NO. & TYPE 14053-FSC-11 UNIT PRICE
 NAME & ADDRESS OF SUBCONTRACTOR AAA GODFREY SEPTIC TANK SERVICE
P.O. BOX 583, VINCENNES, INDIANA 47591
 COMPLETE DESCRIPTION OF CONTRACT Septic Tank Service

REMARKS

1,000's							
ACCT. NO.	DESCRIPTION & SPECIFICATION DATA	UNIT	QUANTITY	TOTAL DOLLARS	\$/UNIT	MANUAL MANHOURS	MH/UNIT
70160	SEPTIC TANK PUMPING			8.2		-	
TOTAL SUBCONTRACT				8.2		-	
CONSTRUCTION EQUIPMENT USED			RATINGS				
NONE			1. HOME OFFICE SUPERVISION	NA			
			2. FIELD SUPERVISION	EXCELLENT			
			3. MATERIAL PROCUREMENT	NA			
			4. SCHEDULING AND PLANNING	EXCELLENT			
			5. PRICING AND PROCESSING CHANGES	NA			
			6. SHOP DRAWINGS	NA			
			7. LABOR RELATIONS	NA			
			8. ADEQUACY OF EQUIPMENT	EXCELLENT			
			9. COOPERATION	EXCELLENT			
AVERAGE FORCE	PEAK FORCE		10. QUALITY OF WORK	EXCELLENT			

**BECHTEL INCORPORATED
REFINERY & CHEMICAL DIVISION
SUBCONTRACT ANALYSIS**

JOB NO. 14053 PROJECT Robinson Refinery Modernization
 CLIENT Marathon Oil Company CONSTR. DATES 11/80 - 3/81
 LOCATION Robinson, Illinois

SUBCONTRACT NO. & TYPE 14053-FSC-13 T & M
 NAME & ADDRESS OF SUBCONTRACTOR MAECO P. O. Box 504 Lawrenceville, Illinois 62439

COMPLETE DESCRIPTION OF CONTRACT Mass excavation of Plant 16 Acid Soil, hauling contaminated soil to offsites disposal area including grading and covering with lime, hauling approved backfill from MAECO suppliers and compaction to minimum of 90% modified proctor.

REMARKS Backfill operations included mixing hydrated lime (supplied by Bechtel) for neutralization of acidic soil.

\$1,000's

ACCT. NO.	DESCRIPTION & SPECIFICATION DATA	UNIT	QUANTITY	TOTAL DOLLARS	\$/UNIT	MANUAL MANHOURS	MH/UNIT
70130	TEMPORARY ROADS AND PARKING	CY	1263	27.0	21.4	670	
16S11	EXCAVATION AND DISPOSAL (calculated volume)	CY	17967	193.1	10.7	4495	0.25
16S12	BACKFILL MATERIAL-CLAY	CY	8550	57.7	6.75		
	SAND	CY	5234	45.0	8.60		
	ROCK&GRAVEL (For building road to disposal area)	CY	3319	39.8	12.00		
16S12	BACKFILL & COMPACTION (calculated volume)	CY	9695	264.3	27.3	6152	0.64
NOTE: Approximately 2500 CY of newly placed saturated fill was removed and replaced. Remaining volume discrepancy results from difference between calculated compacted volume and loose purchased volume.							
TOTAL SUBCONTRACT				626.9		11317	

CONSTRUCTION EQUIPMENT USED				RATINGS	
5 Dumptrucks, 4 End Loaders, 3 Dozers,				1. HOME OFFICE SUPERVISION	Excellent
2 Backhoes, 1 Vibratory Roller, 1 Farm				2. FIELD SUPERVISION	Excellent
Tractor with disc.				3. MATERIAL PROCUREMENT	Excellent
				4. SCHEDULING AND PLANNING	NA
				5. PRICING AND PROCESSING CHANGES	Excellent
				6. SHOP DRAWINGS	NA
				7. LABOR RELATIONS	Excellent
				8. ADEQUACY OF EQUIPMENT	Excellent
				9. COOPERATION	Excellent
AVERAGE FORCE	15	PEAK FORCE	22	10. QUALITY OF WORK	Excellent

BECHTEL INCORPORATED
REFINERY & CHEMICAL DIVISION
SUBCONTRACT ANALYSIS

JOB NO. 14053

PROJECT Robinson Refinery Modernization

CLIENT Marathon Oil Company

CONSTR. DATES 2/81 - 4/81

LOCATION Robinson, Illinois

SUBCONTRACT NO. & TYPE 14053-FSC-15 T & M and UP

NAME & ADDRESS OF SUBCONTRACTOR S & S Inspection Company

P. O. Box 671 Lawrenceville, Illinois 62439

COMPLETE DESCRIPTION OF CONTRACT Provide weld radiography for Subcontract 14053-FSC-5
piperack relocation as directed by Bechtel.

REMARKS

\$1,000's

ACCT. NO.	DESCRIPTION & SPECIFICATION DATA	UNIT	QUANTITY	TOTAL DOLLARS	\$/UNIT	MANUAL MANHOURS	MH/UNIT
16L92	Weld Radiography			2.5			
	TOTAL SUBCONTRACT			2.5		-	

CONSTRUCTION EQUIPMENT USED				RATINGS	
Radiographic Equipment				1. HOME OFFICE SUPERVISION	Excellent
				2. FIELD SUPERVISION	Excellent
				3. MATERIAL PROCUREMENT	NA
				4. SCHEDULING AND PLANNING	NA
				5. PRICING AND PROCESSING CHANGES	NA
				6. SHOP DRAWINGS	NA
				7. LABOR RELATIONS	NA
				8. ADEQUACY OF EQUIPMENT	Excellent
				9. COOPERATION	Excellent
AVERAGE FORCE	2	PEAK FORCE	2	10. QUALITY OF WORK	Good

BECHTEL INCORPORATED
REFINERY & CHEMICAL DIVISION
SUBCONTRACT ANALYSIS

JOB NO. 14053 PROJECT Robinson Refinery Modernization
CLIENT Marathon Oil Company CONSTR. DATES Jan. 81 - April 81
LOCATION Robinson, Illinois

SUBCONTRACT NO. & TYPE 14053-FSC-16 Lump Sum w/Unit Price adds & deducts

NAME & ADDRESS OF SUBCONTRACTOR MAECo 500 N. 15th Street P. O. Box 504
Lawrenceville, Illinois 62439

COMPLETE DESCRIPTION OF CONTRACT Drilling of Groundwells 120' to 180' deep and
providing and installing casing in each well - total of seven (7) wells (8"Ø)

REMARKS The overall abilities, desire for cooperation and performance of work
to high standards of workmanship makes MAECo a desirable Subcontractor. They will
remain on our Bidder's List for any work within their area of interest.

ACCT. NO.	DESCRIPTION & SPECIFICATION DATA	UNIT	QUANTITY	TOTAL DOLLARS	\$/UNIT	MANUAL MANHOURS	MH/UNIT
	Drilling 7 Wells 150' Deep Each	LS	Lot	42,000	NA	1024	NA
	Add/L.F. for Wells over 150' Deep	LF	30	1,200	\$40		NA
	Deduct/L.F. for Wells Less Than 150' Deep	LF	180	(3,600)	\$20		NA
	Standby Time for BPI Testing of Well	1/2 hr	12	800	\$50		NA
	Extra Mobilization to Clear Well	LS	Lot	1,534	NA		NA
	TOTAL			41,934		1024	
ALLOCATION							
16P41	PLANT 16 (1 well)			6.0		146	
26P41	PLANT 50 (6 wells)			35.9		878	
	TOTAL SUBCONTRACT			41.9		1024	

CONSTRUCTION EQUIPMENT USED		RATINGS	
1 Each Well Drilling Rig		1. HOME OFFICE SUPERVISION	Excellent
		2. FIELD SUPERVISION	Excellent
		3. MATERIAL PROCUREMENT	Excellent
		4. SCHEDULING AND PLANNING	Excellent
		5. PRICING AND PROCESSING CHANGES	Excellent
		6. SHOP DRAWINGS	NA
		7. LABOR RELATIONS	Excellent
		8. ADEQUACY OF EQUIPMENT	Excellent
		9. COOPERATION	Excellent
AVERAGE FORCE	PEAK FORCE	10. QUALITY OF WORK	Excellent

BECHTEL INCORPORATED
REFINERY & CHEMICAL DIVISION
SUBCONTRACT ANALYSIS

JOB NO. 14053
CLIENT Marathon Oil Company
LOCATION Robinson, Illinois

PROJECT Robinson Refinery Modernization
Project
CONSTR. DATES 12/80 to 4/81

SUBCONTRACT NO. & TYPE	14053-FSC-17	Unit Price
NAME & ADDRESS OF SUBCONTRACTOR	Potter Electrical Eng. & Construction Co. Inc.	

COMPLETE DESCRIPTION OF CONTRACT Operated & Maintained Construction Equipment
Rental Agreement.

REMARKS

\$1,000's

ACCT. NO.	DESCRIPTION & SPECIFICATION DATA	UNIT	QUANTITY	TOTAL DOLLARS	\$/UNIT	MANUAL MANHOURS	MH/UNIT
700313	Power Pole Earth Auger Rental (Pole Cat) (Total of 14 hours)	1 Lot	NA	0.6	NA	NA	NA
	TOTAL SUBCONTRACT			0.6			

CONSTRUCTION EQUIPMENT USED		RATINGS	
1 Each Pole Cat		1. HOME OFFICE SUPERVISION	Good
		2. FIELD SUPERVISION	Good
		3. MATERIAL PROCUREMENT	NA
		4. SCHEDULING AND PLANNING	NA
		5. PRICING AND PROCESSING CHANGES	NA
		6. SHOP DRAWINGS	NA
		7. LABOR RELATIONS	Good
		8. ADEQUACY OF EQUIPMENT	Excellent
		9. COOPERATION	Excellent
AVERAGE FORCE 1	PEAK FORCE 1	10. QUALITY OF WORK	Excellent

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PROJECT	ROBINSON REFINERY MODERNIZATION	
CONSTR. DATES	04/81-01/82	PROJECT

1042 CENTRAL INDUSTRIAL DRIVE, ST. LOUIS, MISSOURI 63110

1,000's

RCSC 5.17

**BECHTEL INCORPORATED
REFINERY & CHEMICAL DIVISION
SUBCONTRACT ANALYSIS**

JOB NO. 14053 PROJECT Robinson Refinery Modernization
 CLIENT Marathon Oil Company CONSTR. DATES 1/9/81 - 8/31/81
 LOCATION Robinson, Illinois

SUBCONTRACT NO. & TYPE 14053-FSC-19 T & M

NAME & ADDRESS OF SUBCONTRACTOR Sturm Heating and Air Conditioning

501 South Webster Robinson, Illinois 62454

COMPLETE DESCRIPTION OF CONTRACT Furnish material, fabricate and erect temporary steam supply header for winter concrete protection.

REMARKS Extremely well qualified and cooperative Subcontractor. Quality of workmanship and follow-up on warranty repairs excellent.

\$1,000's							
ACCT. NO.	DESCRIPTION & SPECIFICATION DATA	UNIT	QUANTITY	TOTAL DOLLARS	S/UNIT	MANUAL MANHOURS	MH/UNIT
70190	TEMPORARY STEAM HEADER			7.1		165	
TOTAL SUBCONTRACT				7.1		165	
CONSTRUCTION EQUIPMENT USED			RATINGS				
None			1. HOME OFFICE SUPERVISION	Excellent			
			2. FIELD SUPERVISION	Excellent			
			3. MATERIAL PROCUREMENT	Excellent			
			4. SCHEDULING AND PLANNING	Excellent			
			5. PRICING AND PROCESSING CHANGES	Excellent			
			6. SHOP DRAWINGS	N/A			
			7. LABOR RELATIONS	Excellent			
			8. ADEQUACY OF EQUIPMENT	N/A			
			9. COOPERATION	Excellent			
AVERAGE FORCE	2	PEAK FORCE	4	10. QUALITY OF WORK	Excellent		

**BECHTEL INCORPORATED
REFINERY & CHEMICAL DIVISION
SUBCONTRACT ANALYSIS**

JOB NO. 14053 PROJECT ROBINSON REFINERY MODERNIZATION
 CLIENT MARATHON OIL COMPANY CONSTR. DATES 01/81-04/82 PROJECT
 LOCATION ROBINSON, ILLINOIS

SUBCONTRACT NO. & TYPE 14053-FSC-20 UNIT PRICE
 NAME & ADDRESS OF SUBCONTRACTOR FULLER TRUCKING
P.O. BOX 201, ROBINSON, ILLINOIS 62454
 COMPLETE DESCRIPTION OF CONTRACT Trash removal services.

REMARKS

1,000's							
ACCT. NO.	DESCRIPTION & SPECIFICATION DATA	UNIT	QUANTITY	TOTAL DOLLARS	\$/UNIT	MANUAL MANHOURS	MH/UNIT
70160	TRASH REMOVAL SERVICES			28.1			

BECHTEL INCORPORATED
REFINERY & CHEMICAL DIVISION
SUBCONTRACT ANALYSIS

JOB NO. 14053 PROJECT ROBINSON REFINERY MODERNIZATION
CLIENT MARATHON OIL COMPANY CONSTR. DATES 10/81 - 09/82 PROJECT
LOCATION ROBINSON, ILLINOIS

SUBCONTRACT NO. & TYPE 14053-FSC-21 LUMP SUM & UNIT PRICE

NAME & ADDRESS OF SUBCONTRACTOR BRAND INSULATIONS, INC.

1420 RENAISSANCE DRIVE PARK RIDGE, ILLINOIS 60068

COMPLETE DESCRIPTION OF CONTRACT Thermal Insulation of equipment and piping in Area "A".

REMARKS

\$1,000's

ACCT. NO.	DESCRIPTION & SPECIFICATION DATA	UNIT	QUANTITY	TOTAL DOLLARS	\$/UNIT	MANUAL MANHOURS	MH/UNIT
16N10	PIPE INSULATION	ELF	64047	1035.0	16.2	28899	0.45
16N20	EQUIPMENT INSULATION	SF	29391	581.0	19.8	11757	0.40
TOTAL SUBCONTRACT				1616.0		40656	

CONSTRUCTION EQUIPMENT USED			RATINGS	
NONE			1. HOME OFFICE SUPERVISION	EXCELLENT
			2. FIELD SUPERVISION	GOOD
			3. MATERIAL PROCUREMENT	GOOD
			4. SCHEDULING AND PLANNING	AVERAGE
			5. PRICING AND PROCESSING CHANGES	AVERAGE
			6. SHOP DRAWINGS	NA
			7. LABOR RELATIONS	GOOD
			8. ADEQUACY OF EQUIPMENT	NA
			9. COOPERATION	AVERAGE
			10. QUALITY OF WORK	EXCELLENT
AVERAGE FORCE	30	PEAK FORCE	36	

BECHTEL INCORPORATED
REFINERY & CHEMICAL DIVISION
SUBCONTRACT ANALYSIS

JOB NO. 14053
CLIENT MARATHON OIL COMPANY
LOCATION ROBINSON, ILLINOIS

PROJECT ROBINSON REFINERY MODERNIZATION	
CONSTR. DATES	06/81-05/82 PROJECT

SUBCONTRACT NO. & TYPE	14053-FSC-22	UNIT PRICE
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NAME & ADDRESS OF SUBCONTRACTOR S & S INSPECTION COMPANY
P.O. BOX 671, LAWRENCEVILLE, ILLINOIS 62439

COMPLETE DESCRIPTION OF CONTRACT Weld X-Ray Services

REMARKS

1,000's

ACCT. NO.	DESCRIPTION & SPECIFICATION DATA				UNIT	QUANTITY	TOTAL DOLLARS	\$/UNIT	MANUAL MANHOURS	MH/UNIT
16L92	WELD RADIOGRAPHY				LOT	1	46.1	46.1	1662	1662

BECHTEL INCORPORATED
REFINERY & CHEMICAL DIVISION
SUBCONTRACT ANALYSIS

JOB NO. 14053
CLIENT MARATHON OIL COMPANY
LOCATION ROBINSON, ILLINOIS

PROJECT ROBINSON REFINERY MODERNIZATION
CONSTR. DATES 10/81-04/82 PROJECT

SUBCONTRACT NO. & TYPE 14053-FSC-23 LUMP SUM

NAME & ADDRESS OF SUBCONTRACTOR STURM HEATING AND AIR CONDITIONING

501 S. WEBSTER. ROBINSON, ILLINOIS 62454

COMPLETE DESCRIPTION OF CONTRACT Air conditioning and pressurization units for
new permanent plant buildings and rework of Air Conditioning systems
in existing plant control rooms.

REMARKS

1,000's

ACCT. NO.	DESCRIPTION & SPECIFICATION DATA	UNIT	QUANTITY	TOTAL DOLLARS	\$/UNIT	MANUAL MANHOURS	MH/UNIT
16R70	PLANT 16 CONTROL ROOM HVAC	LOT	1	53.6		887	
16R70	PLANT 16 SUBSTATION BLDG. HVAC	LOT	1	6.6		97	
16R70	PLANT 16 BOILER FEEDWATER BLDG. HVAC	LOT	1	6.6		94	
23R70	PLANT 23 SWITCHGEAR ROOM HVAC	LOT	1	7.1		112	
32R70	PLANT 32 CHEM. INJECT. BLDG. HVAC	LOT	1	9.8		171	
26R70	REVAMP CONTROL ROOM #3 HVAC	LOT	1	23.0		225	
26R70	REVAMP CONTROL ROOM #4 HVAC	LOT	1	2.3		36	
26R70	REVAMP COKER CONTROL ROOM HVAC	LOT	1	7.8		148	
	TOTAL SUBCONTRACT			116.8		1770	

CONSTRUCTION EQUIPMENT USED		RATINGS	
NONE		1. HOME OFFICE SUPERVISION	EXCELLENT
		2. FIELD SUPERVISION	EXCELLENT
		3. MATERIAL PROCUREMENT	EXCELLENT
		4. SCHEDULING AND PLANNING	GOOD
		5. PRICING AND PROCESSING CHANGES	GOOD
		6. SHOP DRAWINGS	AVERAGE
		7. LABOR RELATIONS	EXCELLENT
		8. ADEQUACY OF EQUIPMENT	NA
		9. COOPERATION	EXCELLENT
AVERAGE FORCE	PEAK FORCE	10. QUALITY OF WORK	EXCELLENT

BECHTEL INCORPORATED
REFINERY & CHEMICAL DIVISION
SUBCONTRACT ANALYSIS

JOB NO. 14053

PROJECT ROBINSON REFINERY MODERNIZATION

CLIENT MARATHON OIL COMPANY

CONSTR. DATES 12/81 - 07/82

LOCATION ROBINSON, ILLINOIS

SUBCONTRACT NO. & TYPE 14053-FSC-24 LUMP SUM & UNIT PRICE

NAME & ADDRESS OF SUBCONTRACTOR A & M INSULATION CO.

2614 CLYBOURN AVENUE CHICAGO, ILLINOIS 60614

COMPLETE DESCRIPTION OF CONTRACT Thermal insulation of equipment and piping in Area "B".

REMARKS

\$1,000's

ACCT. NO.	DESCRIPTION & SPECIFICATION DATA	UNIT	QUANTITY	TOTAL DOLLARS	\$/UNIT	MANUAL MANHOURS	MH/UNIT
N10	PIPE INSULATION	ELF	49771	550.0	11.1	19095	0.38
N20	EQUIPMENT INSULATION	SF	12288	150.0	12.2	6072	0.49
	TOTAL SUBCONTRACT			700.0		25167	

CONSTRUCTION EQUIPMENT USED		RATINGS	
NONE		1. HOME OFFICE SUPERVISION	GOOD
		2. FIELD SUPERVISION	EXCELLENT
		3. MATERIAL PROCUREMENT	AVERAGE
		4. SCHEDULING AND PLANNING	GOOD
		5. PRICING AND PROCESSING CHANGES	GOOD
		6. SHOP DRAWINGS	NA
		7. LABOR RELATIONS	GOOD
		8. ADEQUACY OF EQUIPMENT	NA
		9. COOPERATION	EXCELLENT
AVERAGE FORCE	PEAK FORCE	10. QUALITY OF WORK	EXCELLENT

BECHTEL INCORPORATED
REFINERY & CHEMICAL DIVISION
SUBCONTRACT ANALYSIS

JOB NO. 14053 PROJECT ROBINSON REFINERY MODERNIZATION
CLIENT MARATHON OIL COMPANY CONSTR. DATES 10/81-04/82 PROJECT
LOCATION ROBINSON, ILLINOIS

SUBCONTRACT NO. & TYPE 14053-FSC-26 LUMP SUM

NAME & ADDRESS OF SUBCONTRACTOR NOOTER CORPORATION
1400 S. THIRD STREET, ST. LOUIS, MISSOURI 63166

COMPLETE DESCRIPTION OF CONTRACT Weld skirt to Platforming Reactor and install
Reactor internals.

REMARKS

1,000's							
ACCT. NO.	DESCRIPTION & SPECIFICATION DATA	UNIT	QUANTITY	TOTAL DOLLARS	\$/UNIT	MANUAL MANHOURS	MH/UNIT
16C09	INSTALL REACTOR INTERNALS			212.8		5927	
TOTAL SUBCONTRACT				212.8		5927	
CONSTRUCTION EQUIPMENT USED			RATINGS				
NONE			1. HOME OFFICE SUPERVISION	GOOD			
			2. FIELD SUPERVISION	EXCELLENT			
			3. MATERIAL PROCUREMENT	EXCELLENT			
			4. SCHEDULING AND PLANNING	GOOD			
			5. PRICING AND PROCESSING CHANGES	AVERAGE			
			6. SHOP DRAWINGS	NA			
			7. LABOR RELATIONS	EXCELLENT			
			8. ADEQUACY OF EQUIPMENT	NA			
			9. COOPERATION	EXCELLENT			
			10. QUALITY OF WORK	EXCELLENT			
AVERAGE FORCE	PEAK FORCE						

**BECHTEL INCORPORATED
REFINERY & CHEMICAL DIVISION
SUBCONTRACT ANALYSIS**

JOB NO. 14053 PROJECT Robinson Refinery Modernization
 CLIENT Marathon Oil Company CONSTR. DATES 6/15/81 - 6/19/81
 LOCATION Robinson, Illinois

SUBCONTRACT NO. & TYPE 14053-FSC-27 LUMP SUM
 NAME & ADDRESS OF SUBCONTRACTOR MAECO P. O. Box 504 Lawrenceville, Illinois 62439

COMPLETE DESCRIPTION OF CONTRACT Construction of temporary road on south side of Plant 16

REMARKS _____

\$1,000's

ACCT. NO.	DESCRIPTION & SPECIFICATION DATA	UNIT	QUANTITY	TOTAL DOLLARS	\$/UNIT	MANUAL MANHOURS	MH/UNIT
	Construction of temporary road	TONS	340	9.4	27.6	80	0.24
TOTAL SUBCONTRACT		TONS	340	9.4	27.6	80	0.24
CONSTRUCTION EQUIPMENT USED			RATINGS				
2 Dumptrucks, 1 End Loader, 1 Grader,			1. HOME OFFICE SUPERVISION	Excellent			
1 Roller			2. FIELD SUPERVISION	Excellent			
			3. MATERIAL PROCUREMENT	Excellent			
			4. SCHEDULING AND PLANNING	Excellent			
			5. PRICING AND PROCESSING CHANGES	Excellent			
			6. SHOP DRAWINGS	NA			
			7. LABOR RELATIONS	Excellent			
			8. ADEQUACY OF EQUIPMENT	Excellent			
			9. COOPERATION	Excellent			
AVERAGE FORCE	5	PEAK FORCE	5	10. QUALITY OF WORK	Excellent		

**BECHTEL INCORPORATED
REFINERY & CHEMICAL DIVISION
SUBCONTRACT ANALYSIS**

JOB NO. 14053 PROJECT ROBINSON REFINERY MODERNIZATION
 CLIENT MARATHON OIL COMPANY CONSTR. DATES 10/81-04/82 PROJECT
 LOCATION ROBINSON, ILLINOIS

SUBCONTRACT NO. & TYPE 14053-FSC-28 UNIT PRICE

NAME & ADDRESS OF SUBCONTRACTOR WESTERN STRESS, INC.

3215 W. 127th STREET, BLUE ISLAND, ILLINOIS 60406

COMPLETE DESCRIPTION OF CONTRACT Stress relieving of 1-1/4% Chrome Pipe welds.

REMARKS Western Stress provided the equipment and a technician. Bechtel provided the labor (3000 mhrs) to run the cables and wrap the pipe.

1,000's

ACCT. NO.	DESCRIPTION & SPECIFICATION DATA	UNIT	QUANTITY	TOTAL DOLLARS	\$/UNIT	MANUAL MANHOURS	MH/UNIT
16L91	STRESS RELIEVING	DI	2417	28.2	11.7	361	0.15
TOTAL SUBCONTRACT		DI	2417	28.2	11.7	361	0.15

CONSTRUCTION EQUIPMENT USED		RATINGS	
SELF CONTAINED STRESS RELIEVING UNIT.	1. HOME OFFICE SUPERVISION	EXCELLENT	
	2. FIELD SUPERVISION	EXCELLENT	
	3. MATERIAL PROCUREMENT	NA	
	4. SCHEDULING AND PLANNING	EXCELLENT	
	5. PRICING AND PROCESSING CHANGES	NA	
	6. SHOP DRAWINGS	NA	
	7. LABOR RELATIONS	NA	
	8. ADEQUACY OF EQUIPMENT	EXCELLENT	
	9. COOPERATION	EXCELLENT	
AVERAGE FORCE	PEAK FORCE	10. QUALITY OF WORK	EXCELLENT

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PROJECT ROBINSON REFINERY MODERNIZATION

CONSTR. DATES 02/82-04/82 PROJECT

PROJECT

NAME & ADDRESS OF SUBCONTRACTOR GILLESPIE AND POWERS, INC.

9550 TRUE DRIVE, ST. LOUIS, MISSOURI 63132

COMPLETE DESCRIPTION OF CONTRACT Install refractory in fired heaters.

REMARKS

1,000's

ACCT. NO.	DESCRIPTION & SPECIFICATION DATA	UNIT	QUANTITY	TOTAL DOLLARS	\$/UNIT	MANUAL MANHOURS	MH/UNIT
16F40	INSTALL REFACTORY 16F-1, 2, 4	SF	1188	10.2	8.60	280	0.24
16F40	INSTALL REFACTORY 16F-3	SF	22068	249.3	11.30	6811	0.31
23F40	INSTALL REFACTORY 23F-1	SF	1875	16.1	8.60	440	0.24
	TOTAL SUBCONTRACT	SF	25131	275.6	10.97	7531	0.30
CONSTRUCTION EQUIPMENT USED			RATINGS				
NONE			1. HOME OFFICE SUPERVISION	GOOD			
			2. FIELD SUPERVISION	EXCELLENT			
			3. MATERIAL PROCUREMENT	NA			
			4. SCHEDULING AND PLANNING	AVERAGE			
			5. PRICING AND PROCESSING CHANGES	AVERAGE			
			6. SHOP DRAWINGS	NA			
			7. LABOR RELATIONS	GOOD			
			8. ADEQUACY OF EQUIPMENT	NA			
			9. COOPERATION	EXCELLENT			
AVERAGE FORCE	PEAK FORCE		10. QUALITY OF WORK	EXCELLENT			

BECHTEL INCORPORATED
REFINERY & CHEMICAL DIVISION
SUBCONTRACT ANALYSIS

JOB NO. <u>14053</u>	PROJECT <u>Robinson Refinery Modernization</u>
CLIENT <u>Marathon Oil Company</u>	CONSTR. DATES <u>8/1/81 - 9/1/81</u>
LOCATION <u>Robinson, Illinois</u>	

SUBCONTRACT NO. & TYPE	14053-FSC-31	Lump Sum
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NAME & ADDRESS OF SUBCONTRACTOR Quality Fence Company
1515 Lafayette Avenue Terre Haute, Indiana 47804

COMPLETE DESCRIPTION OF CONTRACT Install one double leaf 32 foot gate in existing Refinery perimeter fence.

REMARKS

\$1,000's

ACCT. NO.	DESCRIPTION & SPECIFICATION DATA	UNIT	QUANTITY	TOTAL DOLLARS	\$/UNIT	MANUAL MANHOURS	MH/UNIT
	1 Ea. 32' Gate, Fabricate and Install			1.0		16	
	TOTAL SUBCONTRACT			1.0		16	
CONSTRUCTION EQUIPMENT USED				RATINGS			
None				1. HOME OFFICE SUPERVISION Excellent			
				2. FIELD SUPERVISION Excellent			
				3. MATERIAL PROCUREMENT Excellent			
				4. SCHEDULING AND PLANNING Excellent			
				5. PRICING AND PROCESSING CHANGES NA			
				6. SHOP DRAWINGS NA			
				7. LABOR RELATIONS Good			
				8. ADEQUACY OF EQUIPMENT NA			
				9. COOPERATION Excellent			
AVERAGE FORCE 3 PEAK FORCE 3				10. QUALITY OF WORK Excellent			

BECHTEL INCORPORATED
REFINERY & CHEMICAL DIVISION
SUBCONTRACT ANALYSIS

JOB NO. 14053

PROJECT Robinson Refinery Modernization

CLIENT Marathon Oil Company

CONSTR. DATES 7/15/81 - 8/15/81

LOCATION Robinson, Illinois

SUBCONTRACT NO. & TYPE 14053-FSC-32 Lump Sum

NAME & ADDRESS OF SUBCONTRACTOR Sturm Heating and Air Conditioning

501 South Webster Robinson, Illinois

COMPLETE DESCRIPTION OF CONTRACT Supply and install one chilled water air conditioning unit in Central Control Room Battery Room

REMARKS

\$1,000's

ACCT. NO.	DESCRIPTION & SPECIFICATION DATA	UNIT	QUANTITY	TOTAL DOLLARS	\$/UNIT	MANUAL MANHOURS	MH/UNIT
26R70	Supply and install one chilled water unit	1 LOT		6.4		64	
	TOTAL SUBCONTRACT			6.4		64	
CONSTRUCTION EQUIPMENT USED			RATINGS				
None			1. HOME OFFICE SUPERVISION		Excellent		
			2. FIELD SUPERVISION		Excellent		
			3. MATERIAL PROCUREMENT		Excellent		
			4. SCHEDULING AND PLANNING		Excellent		
			5. PRICING AND PROCESSING CHANGES		NA		
			6. SHOP DRAWINGS		NA		
			7. LABOR RELATIONS		Excellent		
			8. ADEQUACY OF EQUIPMENT		NA		
			9. COOPERATION		Excellent		
AVERAGE FORCE 2 PEAK FORCE 3			10. QUALITY OF WORK		Excellent		

BECHTEL INCORPORATED
REFINERY & CHEMICAL DIVISION
SUBCONTRACT ANALYSIS

JOB NO. 14053 PROJECT ROBINSON REFINERY MODERNIZATION
CLIENT MARATHON OIL COMPANY CONSTR. DATES 12/81-03/82 PROJECT
LOCATION ROBINSON, ILLINOIS

SUBCONTRACT NO. & TYPE 14053-FSC-33 UNIT PRICE
NAME & ADDRESS OF SUBCONTRACTOR GENERAL ELECTRIC COMPANY
1811 EXECUTIVE DRIVE, SUITE A INDIANAPOLIS, INDIANA 46241
COMPLETE DESCRIPTION OF CONTRACT Calibration and testing of electrical relays.

REMARKS _____

1,000's							
ACCT. NO.	DESCRIPTION & SPECIFICATION DATA	UNIT	QUANTITY	TOTAL DOLLARS	\$/UNIT	MANUAL MANHOURS	MH/UNIT
26P	ELECTRICAL RELAY CALIBRATION			4.0		40	
TOTAL SUBCONTRACT				4.0		40	
CONSTRUCTION EQUIPMENT USED			RATINGS				
NONE			1. HOME OFFICE SUPERVISION	EXCELLENT			
			2. FIELD SUPERVISION	EXCELLENT			
			3. MATERIAL PROCUREMENT	NA			
			4. SCHEDULING AND PLANNING	NA			
			5. PRICING AND PROCESSING CHANGES	NA			
			6. SHOP DRAWINGS	EXCELLENT			
			7. LABOR RELATIONS	NA			
			8. ADEQUACY OF EQUIPMENT	EXCELLENT			
			9. COOPERATION	EXCELLENT			
AVERAGE FORCE	PEAK FORCE		10. QUALITY OF WORK	EXCELLENT			

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PROJECT ROBINSON REFINERY MODERNIZATION

CONSTR. DATES 10/81-03/82 PROJECT

PROJECT

14053-FSC-34 LUMP SUM

NAME & ADDRESS OF SUBCONTRACTOR MARTINSVILLE ROOFING COMPANY

26 S. WASHINGTON STREET, MARTINSVILLE, ILLINOIS 62442

COMPLETE DESCRIPTION OF CONTRACT Install built-up composition roofing on new permanent plant buildings.

REMARKS

1,000's

ACCT. NO.	DESCRIPTION & SPECIFICATION DATA	UNIT	QUANTITY	TOTAL DOLLARS	\$/UNIT	MANUAL MANHOURS	MH/UNIT
16R30	PLANT 16 SUBSTATION ROOFING			4.1		72	
16R30	PLANT 16 BFW BUILDING ROOFING			1.3		24	
32R30	PLANT 32 CHEMICAL INJ. BLDG. ROOFING			4.1		72	
	TOTAL SUBCONTRACT			9.5		168	
CONSTRUCTION EQUIPMENT USED			RATINGS				
NONE			1. HOME OFFICE SUPERVISION	EXCELLENT			
			2. FIELD SUPERVISION	EXCELLENT			
			3. MATERIAL PROCUREMENT	EXCELLENT			
			4. SCHEDULING AND PLANNING	GOOD			
			5. PRICING AND PROCESSING CHANGES	NA			
			6. SHOP DRAWINGS	NA			
			7. LABOR RELATIONS	GOOD			
			8. ADEQUACY OF EQUIPMENT	GOOD			
			9. COOPERATION	EXCELLENT			
AVERAGE FORCE	PEAK FORCE		10. QUALITY OF WORK	EXCELLENT			

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PROJECT ROBINSON REFINERY MODERNIZATION
CONSTR. DATES 10/28/82 - 12/15/81 PROJECT

REMARKS.

RCSC 5.17

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PROJECT ROBINSON REFINERY MODERNIZATION

CONSTR. DATES 03/82-04/82 PROJECT

PROJECT

NAME & ADDRESS OF SUBCONTRACTOR HALLIBURTON SERVICES

P.O. BOX 380, CROSSVILLE, ILLINOIS 62827

COMPLETE DESCRIPTION OF CONTRACT Provide chemicals and equipment to chemically clean carbon steel compressor piping.

REMARKS

RCSC 5.17

BECHTEL INCORPORATED
REFINERY & CHEMICAL DIVISION
SUBCONTRACT ANALYSIS

JOB NO. <u>14053</u>	PROJECT <u>Robinson Refinery Modernization</u>
CLIENT <u>Marathon Oil Company</u>	CONSTR. DATES <u>10/3/81</u>
LOCATION <u>Robinson, Illinois</u>	

SUBCONTRACT NO. & TYPE 14053-FSC-37 Unit Price

NAME & ADDRESS OF SUBCONTRACTOR Lee Kintner & Sons, Inc.

P. O. Box 128 Oblong, Illinois 62449

COMPLETE DESCRIPTION OF CONTRACT Apply MC-30 asphalt prime coat to roadways in
Manual Parking Lot

REMARKS None

\$1,000's

ACCT. NO.	DESCRIPTION & SPECIFICATION DATA	UNIT	QUANTITY	TOTAL DOLLARS	\$/UNIT	MANUAL MANHOURS	MH/UNIT
70130	Apply prime coat	Gal	600	1.2	\$2.10	16	
	TOTAL SUBCONTRACT			1.2		16	

CONSTRUCTION EQUIPMENT USED				RATINGS	
1 each 5,000 Gallon Spray Truck				1. HOME OFFICE SUPERVISION	Excellent
				2. FIELD SUPERVISION	Excellent
				3. MATERIAL PROCUREMENT	Excellent
				4. SCHEDULING AND PLANNING	NA
				5. PRICING AND PROCESSING CHANGES	NA
				6. SHOP DRAWINGS	NA
				7. LABOR RELATIONS	Excellent
				8. ADEQUACY OF EQUIPMENT	Excellent
				9. COOPERATION	Excellent
AVERAGE FORCE	1	PEAK FORCE	1	10. QUALITY OF WORK	Excellent

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PROJECT ROBINSON REFINERY MODERNIZATION	
CONSTR. DATES	10/81-12/81 PROJECT

COMPLETE DESCRIPTION OF CONTRACT Rework existing vessel 29C-1.

					1,000's		
ACCT. NO.	DESCRIPTION & SPECIFICATION DATA	UNIT	QUANTITY	TOTAL DOLLARS	\$/UNIT	MANUAL MANHOURS	MH/UNIT
29C01	REPLACE VESSEL INTERNALS			56.8		1106	
	TOTAL SUBCONTRACT			56.8		1106	

RCSC 5.17

**BECHTEL INCORPORATED
REFINERY & CHEMICAL DIVISION
SUBCONTRACT ANALYSIS**

JOB NO. 14053
CLIENT MARATHON OIL COMPANY
LOCATION ROBINSON, ILLINOIS

PROJECT ROBINSON REFINERY MODERNIZATION
CONSTR. DATES 11/81-3/82 PROJECT

SUBCONTRACT NO. & TYPE 14053-FSC-39 T&M

NAME & ADDRESS OF SUBCONTRACTOR MAECO
500 N. 15th STREET LAWRENCEVILLE, ILLINOIS 62439

COMPLETE DESCRIPTION OF CONTRACT Labor and equipment for snow removal services.

REMARKS

1,000's

ACCT. NO.	DESCRIPTION & SPECIFICATION DATA	UNIT	QUANTITY	TOTAL DOLLARS	\$/UNIT	MANUAL MANHOURS	MH/UNIT
70190	SNOW REMOVAL			6.1		111	
TOTAL SUBCONTRACT				6.1		111	

CONSTRUCTION EQUIPMENT USED		RATINGS	
END LOADER	1. HOME OFFICE SUPERVISION	EXCELLENT	
DUMP TRUCKS	2. FIELD SUPERVISION	EXCELLENT	
ROAD GRADER	3. MATERIAL PROCUREMENT	EXCELLENT	
SAND SPREADER	4. SCHEDULING AND PLANNING	NA	
	5. PRICING AND PROCESSING CHANGES	NA	
	6. SHOP DRAWINGS	NA	
	7. LABOR RELATIONS	GOOD	
	8. ADEQUACY OF EQUIPMENT	EXCELLENT	
	9. COOPERATION	EXCELLENT	
AVERAGE FORCE	10. QUALITY OF WORK	EXCELLENT	
PEAK FORCE			

BECHTEL INCORPORATED
REFINERY & CHEMICAL DIVISION
SUBCONTRACT ANALYSIS

JOB NO. 14053
CLIENT MARATHON OIL COMPANY
LOCATION ROBINSON, ILLINOIS

PROJECT ROBINSON REFINERY MODERNIZATION
CONSTR. DATES 10/28/81-12/15/81^{PROJECT}

SUBCONTRACT NO. & TYPE 14053-FSC-40 LUMP SUM

NAME & ADDRESS OF SUBCONTRACTOR LARK COMMERCIAL PAINTING AND BLASTING, INC.
P.O. BOX 2233, 2628 KUSSNER STREET TERRE HAUTE, INDIANA 47808

COMPLETE DESCRIPTION OF CONTRACT Painting heater stacks and flue gas ducts (on ground).

REMARKS

\$1,000's

ACCT. NO.	DESCRIPTION & SPECIFICATION DATA	UNIT	QUANTITY	TOTAL DOLLARS	\$/UNIT	MANUAL MANHOURS	MH/UNIT
16X10	PAINT HEATER STACKS & DUCTS	SF	15000	15.6		694	
23X10	PAINT HEATER STACKS	SF	1250	1.3		58	
26R50	TOUCH UP PAINT IN CENTRAL CONTROL RM	SF	2500	2.7		116	
16R50	TOUCH UP PAINT IN SATELLITE CONT. RM	SF	675	0.7		31	
	TOTAL SUBCONTRACT		19425	20.3	1.05	899	0.05
CONSTRUCTION EQUIPMENT USED			RATINGS				
SPRAY EQUIPMENT		1. HOME OFFICE SUPERVISION	EXCELLENT				
COMPRESSOR		2. FIELD SUPERVISION	EXCELLENT				
		3. MATERIAL PROCUREMENT	EXCELLENT				
		4. SCHEDULING AND PLANNING	EXCELLENT				
		5. PRICING AND PROCESSING CHANGES	EXCELLENT				
		6. SHOP DRAWINGS	NA				
		7. LABOR RELATIONS	EXCELLENT				
		8. ADEQUACY OF EQUIPMENT	EXCELLENT				
		9. COOPERATION	EXCELLENT				
AVERAGE FORCE	PEAK FORCE	10. QUALITY OF WORK	EXCELLENT				

JOB NO. 14053
CLIENT Marathon Oil Company
LOCATION Robinson, Illinois

PROJECT Robinson Refinery Modernization

CONSTR. DATES 11/16/81 - 11/30/81

SUBCONTRACT NO. & TYPE 14053-FSC-41 Lump Sum

NAME & ADDRESS OF SUBCONTRACTOR MAECo

P. O. Box 504 Lawrenceville, Illinois 62439

COMPLETE DESCRIPTION OF CONTRACT Removal of backfill placed by Reliance Truck Company
(FSC-10) from Reactor off-loading area and restore Railroad right of way

REMARKS

\$1,000's

ACCT. NO.	DESCRIPTION & SPECIFICATION DATA	UNIT	QUANTITY	TOTAL DOLLARS	\$/UNIT	MANUAL MANHOURS	MH/UNIT
16C09	Lump Sum			3.5			
	TOTAL SUBCONTRACT			3.5			

CONSTRUCTION EQUIPMENT USED				RATINGS	
1	Front End Loader			1. HOME OFFICE SUPERVISION	Excellent
2	Dump Trucks			2. FIELD SUPERVISION	Excellent
				3. MATERIAL PROCUREMENT	NA
				4. SCHEDULING AND PLANNING	NA
				5. PRICING AND PROCESSING CHANGES	NA
				6. SHOP DRAWINGS	NA
				7. LABOR RELATIONS	Excellent
				8. ADEQUACY OF EQUIPMENT	Excellent
				9. COOPERATION	Excellent
AVERAGE FORCE	5	PEAK FORCE	5	10. QUALITY OF WORK	Excellent

BECHTEL INCORPORATED
REFINERY & CHEMICAL DIVISION
SUBCONTRACT ANALYSIS

JOB NO. 14053 PROJECT ROBINSON REFINERY MODERNIZATION
CLIENT MARATHON OIL COMPANY CONSTR. DATES 12/81-05/82 PROJECT
LOCATION ROBINSON, ILLINOIS

SUBCONTRACT NO. & TYPE 14053-FSC-42 T&M
NAME & ADDRESS OF SUBCONTRACTOR MORRIS CONSTRUCTION COMPANY
P.O. BOX 3 TUSCOLA, ILLINOIS 61593

COMPLETE DESCRIPTION OF CONTRACT Pipefitter labor for pipe installation.

REMARKS

1,000's

ACCT. NO.	DESCRIPTION & SPECIFICATION DATA	UNIT	QUANTITY	TOTAL DOLLARS	\$/UNIT	MANUAL MANHOURS	MH/UNIT
	PIPEFITTER LABOR			844.0		28854	
	TOTAL SUBCONTRACT			844.0		28854	
CONSTRUCTION EQUIPMENT USED			RATINGS				
MOBILE CRANE		1. HOME OFFICE SUPERVISION	EXCELLENT				
WELDING MACHINES		2. FIELD SUPERVISION	EXCELLENT				
		3. MATERIAL PROCUREMENT	NA				
		4. SCHEDULING AND PLANNING	NA				
		5. PRICING AND PROCESSING CHANGES	NA				
		6. SHOP DRAWINGS	NA				
		7. LABOR RELATIONS	EXCELLENT				
		8. ADEQUACY OF EQUIPMENT	EXCELLENT				
		9. COOPERATION	EXCELLENT				
AVERAGE FORCE	PEAK FORCE	10. QUALITY OF WORK	EXCELLENT				

BECHTEL INCORPORATED
REFINERY & CHEMICAL DIVISION
SUBCONTRACT ANALYSIS

JOB NO. 14053 PROJECT ROBINSON REFINERY MODERNIZATION
CLIENT MARATHON OIL COMPANY CONSTR. DATES 12/81-05/82 PROJECT
LOCATION ROBINSON, ILLINOIS

SUBCONTRACT NO. & TYPE 14053-FSC-43 T&M
NAME & ADDRESS OF SUBCONTRACTOR HOKE CONSTRUCTION COMPANY
P.O. BOX 190 TUSCOLA, ILLINOIS 61953

COMPLETE DESCRIPTION OF CONTRACT Pipfitter labor for pipe installation.

REMARKS

1,000's							
ACCT. NO.	DESCRIPTION & SPECIFICATION DATA	UNIT	QUANTITY	TOTAL DOLLARS	S/UNIT	MANUAL MANHOURS	MH/UNIT
	PIPEFITTER LABOR			1072.0		36725	
TOTAL SUBCONTRACT				1072.0		36725	

CONSTRUCTION EQUIPMENT USED		RATINGS	
MOBILE CRANE	1. HOME OFFICE SUPERVISION	EXCELLENT	
WELDING MACHINES	2. FIELD SUPERVISION	EXCELLENT	
	3. MATERIAL PROCUREMENT	NA	
	4. SCHEDULING AND PLANNING	NA	
	5. PRICING AND PROCESSING CHANGES	NA	
	6. SHOP DRAWINGS	NA	
	7. LABOR RELATIONS	EXCELLENT	
	8. ADEQUACY OF EQUIPMENT	EXCELLENT	
	9. COOPERATION	EXCELLENT	
AVERAGE FORCE	PEAK FORCE	10. QUALITY OF WORK	EXCELLENT

**BECHTEL INCORPORATED
REFINERY & CHEMICAL DIVISION
SUBCONTRACT ANALYSIS**

JOB NO. 14053 PROJECT ROBINSON REFINERY MODERNIZATION
 CLIENT MARATHON OIL COMPANY CONSTR. DATES 12/81-5/82 PROJECT
 LOCATION ROBINSON, ILLINOIS

SUBCONTRACT NO. & TYPE 14053-FSC-44 T&M
 NAME & ADDRESS OF SUBCONTRACTOR J.L. ALLEN COMPANY
P.O. BOX 341, TUSCOLA, ILLINOIS 61953

COMPLETE DESCRIPTION OF CONTRACT Pipefitter labor for pipe installation.

REMARKS

1,000's							
ACCT. NO.	DESCRIPTION & SPECIFICATION DATA	UNIT	QUANTITY	TOTAL DOLLARS	\$/UNIT	MANUAL MANHOURS	MH/UNIT
	PIPEFITTER LABOR			960.0		33046	
TOTAL SUBCONTRACT				960.0		33046	
CONSTRUCTION EQUIPMENT USED			RATINGS				
MOBILE CRANE			1. HOME OFFICE SUPERVISION	EXCELLENT			
			2. FIELD SUPERVISION	EXCELLENT			
			3. MATERIAL PROCUREMENT	NA			
			4. SCHEDULING AND PLANNING	NA			
			5. PRICING AND PROCESSING CHANGES	NA			
			6. SHOP DRAWINGS	NA			
			7. LABOR RELATIONS	EXCELLENT			
			8. ADEQUACY OF EQUIPMENT	EXCELLENT			
			9. COOPERATION	EXCELLENT			
AVERAGE FORCE	PEAK FORCE		10. QUALITY OF WORK	EXCELLENT			

**BECHTEL INCORPORATED
REFINERY & CHEMICAL DIVISION
SUBCONTRACT ANALYSIS**

JOB NO. 14053 PROJECT ROBINSON REFINERY MODERNIZATION
 CLIENT MARATHON OIL COMPANY CONSTR. DATES 03/82-06/82 PROJECT
 LOCATION ROBINSON, ILLINOIS

SUBCONTRACT NO. & TYPE 14053-FSC-45 LUMP SUM
 NAME & ADDRESS OF SUBCONTRACTOR BUSCH & LATTA PAINTING CORPORATION
1360 N. PRICE ROAD, ST. LOUIS, MISSOURI 63132

COMPLETE DESCRIPTION OF CONTRACT Labor and material to apply fireproofing to structural steel and vessel supports.

REMARKS _____

1,000's

ACCT. NO.	DESCRIPTION & SPECIFICATION DATA	UNIT	QUANTITY	TOTAL DOLLARS	\$/UNIT	MANUAL MANHOURS	MH/UNIT
23N30	FIREPROOF EQUIPMENT SUPPORTS-OFFPLOT	SF	9747	30.5	3.13	1075	0.11
23N40	FIREPROOF STRUCTURAL STEEL-OFFPLOT	CF	2893	86.6	29.93	3057	1.06
16N30	FIREPROOF EQUIPMENT SUPPORTS PLANT 16	SF	7489	82.7	11.04	2918	0.39
16N40	FIREPROOF STRUCTURAL STEEL PLANT 16	CF	1022	30.2	29.55	1068	1.05
TOTAL SUBCONTRACT				230.0		8118	
CONSTRUCTION EQUIPMENT USED			RATINGS				
NONE			1. HOME OFFICE SUPERVISION	AVERAGE			
			2. FIELD SUPERVISION	AVERAGE			
			3. MATERIAL PROCUREMENT	EXCELLENT			
			4. SCHEDULING AND PLANNING	POOR			
			5. PRICING AND PROCESSING CHANGES	GOOD			
			6. SHOP DRAWINGS	NA			
			7. LABOR RELATIONS	POOR			
			8. ADEQUACY OF EQUIPMENT	AVERAGE			
			9. COOPERATION	AVERAGE			
AVERAGE FORCE	PEAK FORCE		10. QUALITY OF WORK	AVERAGE			

14053-FSC-45 FIREPROOFING

BUSCH & LATTA PAINTING CORPORATION

Planning and scheduling efforts were poor in that, of the three (3) schedules submitted, none were maintained. Unable to consistently maintain the desired level of productivity.

Labor Relations were poor in that Busch & Latta initially assigned all work to the painters. Ironworkers claimed application of reinforcing mesh; labor's claimed vessel preparation, mixing materials and clean-up; cement masons claimed finishing of applied fireproofing material. International representatives were required to resolve the disputes. Busch & Latta also initially refused to sign Union Agreements with the ironworker, laborers, cement masons and operating engineers.

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PROJECT ROBINSON REFINERY MODERNIZATION
CONSTR. DATES 03/82-04/82 PROJECT

RANCHO VIEJO ROAD, SAN JUAN CAPISTRANO, CALIFORNIA 92675

REMARKS

ACCT. NO.	DESCRIPTION & SPECIFICATION DATA	UNIT	QUANTITY	TOTAL DOLLARS	\$/UNIT	MANUAL MANHOURS	MH/UNIT
16F40	ACOUSTIC EMISSIONS TESTING			31.7		338	
	TOTAL SUBCONTRACT			31.7		338	
CONSTRUCTION EQUIPMENT USED			RATINGS				
VAN WITH NECESSARY COMPUTER AND			1. HOME OFFICE SUPERVISION	EXCELLENT			
MONITORING EQUIPMENT			2. FIELD SUPERVISION	EXCELLENT			
			3. MATERIAL PROCUREMENT	NA			
			4. SCHEDULING AND PLANNING	EXCELLENT			
			5. PRICING AND PROCESSING CHANGES	NA			
			6. SHOP DRAWINGS	NA			
			7. LABOR RELATIONS	NA			
			8. ADEQUACY OF EQUIPMENT	EXCELLENT			
			9. COOPERATION	EXCELLENT			
AVERAGE FORCE	3	PEAK FORCE	3	10. QUALITY OF WORK	EXCELLENT		

**BECHTEL INCORPORATED
REFINERY & CHEMICAL DIVISION
SUBCONTRACT ANALYSIS**

JOB NO. 14053 PROJECT ROBINSON REFINERY MODERNIZATION
 CLIENT MARATHON OIL COMPANY CONSTR. DATES 02/82-03/82 PROJECT
 LOCATION ROBINSON, ILLINOIS

SUBCONTRACT NO. & TYPE 14053-FSC-47 T&M
 NAME & ADDRESS OF SUBCONTRACTOR NELSON - KEATING MECHANICAL, INC.
P.O. BOX 809 LAFAYETTE, INDIANA 47902

COMPLETE DESCRIPTION OF CONTRACT Pipefitter labor for instrumentation loop checks.

REMARKS

1,000's							
ACCT. NO.	DESCRIPTION & SPECIFICATION DATA	UNIT	QUANTITY	TOTAL DOLLARS	\$/UNIT	MANUAL MANHOURS	MH/UNIT
J82	OFFPLOT LOOP CHECKING			33.6		1173	
TOTAL SUBCONTRACT				33.6		1173	
CONSTRUCTION EQUIPMENT USED			RATINGS				
NONE			1. HOME OFFICE SUPERVISION	GOOD			
			2. FIELD SUPERVISION	EXCELLENT			
			3. MATERIAL PROCUREMENT	NA			
			4. SCHEDULING AND PLANNING	EXCELLENT			
			5. PRICING AND PROCESSING CHANGES	NA			
			6. SHOP DRAWINGS	NA			
			7. LABOR RELATIONS	EXCELLENT			
			8. ADEQUACY OF EQUIPMENT	NA			
			9. COOPERATION	EXCELLENT			
AVERAGE FORCE	PEAK FORCE		10. QUALITY OF WORK	EXCELLENT			

12-17

**BECHTEL INCORPORATED
REFINERY & CHEMICAL DIVISION
SUBCONTRACT ANALYSIS**

JOB NO. 14053
CLIENT MARATHON OIL COMPANY
LOCATION ROBINSON, ILLINOIS

PROJECT ROBINSON REFINERY MODERNIZATION
CONSTR. DATES 05/82 - 07/82 PROJECT

SUBCONTRACT NO. & TYPE 14053-FSC-48 TIME & MATERIAL

NAME & ADDRESS OF SUBCONTRACTOR SHEEHAN PIPELINE CONSTRUCTION, CO.
P.O. BOX 352 ROBINSON, ILLINOIS 62454

COMPLETE DESCRIPTION OF CONTRACT Provide labor to assist in Project Demobilization.

REMARKS Bechtel provided all field supervision.

\$1,000's

ACCT. NO.	DESCRIPTION & SPECIFICATION DATA	UNIT	QUANTITY	TOTAL DOLLARS	\$/UNIT	MANUAL MANHOURS	MH/UNIT
70110	DEMOBILIZATION			50.0		2200	
TOTAL SUBCONTRACT				50.0		2200	

CONSTRUCTION EQUIPMENT USED		RATINGS	
WELDING MACHINES		1. HOME OFFICE SUPERVISION	EXCELLENT
		2. FIELD SUPERVISION	NA
		3. MATERIAL PROCUREMENT	NA
		4. SCHEDULING AND PLANNING	NA
		5. PRICING AND PROCESSING CHANGES	NA
		6. SHOP DRAWINGS	NA
		7. LABOR RELATIONS	EXCELLENT
		8. ADEQUACY OF EQUIPMENT	EXCELLENT
		9. COOPERATION	EXCELLENT
AVERAGE FORCE	PEAK FORCE	10. QUALITY OF WORK	EXCELLENT

**BECHTEL INCORPORATED
REFINERY & CHEMICAL DIVISION
SUBCONTRACT ANALYSIS**

JOB NO. 14053 PROJECT ROBINSON REFINERY MODERNIZATION
 CLIENT MARATHON OIL COMPANY CONSTR. DATES 03/82-04/82 PROJECT
 LOCATION ROBINSON, ILLINOIS

SUBCONTRACT NO. & TYPE 14053-FSC-49, 50 & 51 T&M
 NAME & ADDRESS OF SUBCONTRACTOR SHEEHAN PIPELINE CONSTRUCTION COMPANY
P.O. BOX 352 ROBINSON, ILLINOIS 62454

COMPLETE DESCRIPTION OF CONTRACT Boilermaker labor for completion of Plant 16
heaters and punchlist work.

REMARKS _____

1,000's							
ACCT. NO.	DESCRIPTION & SPECIFICATION DATA	UNIT	QUANTITY	TOTAL DOLLARS	\$/UNIT	MANUAL MANHOURS	MH/UNIT
16F40	BOILERMAKER LABOR			106.8		3617	
TOTAL SUBCONTRACT				106.8		3617	

CONSTRUCTION EQUIPMENT USED		RATINGS	
NONE		1. HOME OFFICE SUPERVISION	EXCELLENT
		2. FIELD SUPERVISION	EXCELLENT
		3. MATERIAL PROCUREMENT	NA
		4. SCHEDULING AND PLANNING	EXCELLENT
		5. PRICING AND PROCESSING CHANGES	NA
		6. SHOP DRAWINGS	NA
		7. LABOR RELATIONS	EXCELLENT
		8. ADEQUACY OF EQUIPMENT	NA
		9. COOPERATION	EXCELLENT
AVERAGE FORCE	PEAK FORCE	10. QUALITY OF WORK	EXCELLENT

17 HOME OFFICE



JOB NO. 11053
 DESCRIPTION RRMP
 CLIENT MARATHON OIL CO.
 LOCATION ROBINSON, IL.

HOME OFFICE COSTS SUMMARY

CONST. DATES 10/80 TO 4/82
 PREPARED BY D. L. LEE

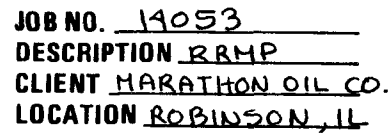
	MANHOURS		COSTS IN \$1000								
	Tech.	Non-Tech.	SALARIES		Payroll Additives	Repro- duction and Supplies	Travel	Tel., Tel., and Postage	S/C - Outside	Other	Total
			Tech.	Non-Tech.							
DEPARTMENT BREAKDOWN											
Division Technical Services	25.1	1.6	358.1	11.4	120.0	40.2	35.6	3.9	7.5	26.3	603.0
Engineering	364.6	19.2	5275.1	119.4	1716.3	616.3	361.8	38.1	72.2	506.8	8706.0
Procurement	37.8	10.7	525.1	67.3	210.3	40.7	118.3	35.0	6.3	-	1003.0
Construction	9.9	1.6	203.4	11.8	76.2	2.5	109.2	6.4	-	.1	404.6
Project Management	5.6	4.0	175.1	26.7	71.9	17.6	28.0	11.7	1.1	-	332.1
Other Divisional	.3	.5	11.8	4.1	2.8	1.8	.1	28.6	1.2	-	49.4
Controller	-	11.9	-	112.8	37.3	9.1	5.3	3.2	1.9	1.4	171.0
Personnel	-	-	-	-	-	-	-	-	-	-	-
Labor Relations	-	2.1	-	37.5	13.7	.4	12.5	1.9	.1	-	66.1
Legal & Insurance	-	.4	-	6.3	2.3	-	.5	.1	2.0	-	11.2
Data Processing	-	-	-	-	-	-	-	-	-	-	-
Other Corporate Services	2.8	.2	38.8	3.2	14.0	1.9	5.5	15.4	-	5.9	84.7
Field Assignment (Function 10)	.1	-	1.3	-	.4	12.2	1.6	1.2	-	13.2	29.9
INTEROFFICE BILLINGS	.1	.5	-	-	-	-	-	-	-	26.0	26.0
TOTAL COSTS (Reimb.) (Excludes AFI)	*446.3	*52.7	6588.7	400.5	2265.2	742.7	673.4	145.5	91.3	579.7	11487.0
OFFICE BREAKDOWN											
Sponsor - HOUSTON	426.7	46.5	6304.9	334.6	2137.6	721.0	550.8	118.0	88.0	485.3	10740.2
Other - SAN FRANCISCO	19.5	5.7	283.8	65.9	127.6	21.7	122.6	27.5	3.3	68.4	720.8
Other - AUN ARBOR	-	.4	-	-	-	-	-	-	-	15.7	15.7
Other - GAITHERSBURG	-	.1	-	-	-	-	-	-	-	2.6	2.6
Other - EDMONTON	.1	-	-	-	-	-	-	-	-	7.7	7.7
TOTAL COSTS - ALL OFFICES (Excluding AFI)	446.3	52.7	6588.7	400.5	2265.2	742.7	673.4	145.5	91.3	579.7	11487.0
*EXCLUDES AGENCY MHRS											
2.0 T	.										
2.3 NT											

HOME OFFICE COSTS SUMMARY

PHR 1.7-1

PAGE 1

GARRARD 00000646



HOUSTON OFFICE

CONST. DATES 10/80 TO 4/82
PREPARED BY D.L. LEE

PAGE 2

GARRARD 00000647



JOB NO. 14053
DESCRIPTION RRMP
CLIENT MARATHON OIL CO.
LOCATION ROBINSON, IL.

HOME OFFICE COSTS
BY OFFICE
SAN
FRANCISCO OFFICE

CONST. DATES 10/80 TO 4/82
PREPARED BY D.L. LEE

	MANHOURS		COSTS IN \$1000 (U.S.)								
	Tech.	Non-Tech.	SALARIES		Payroll Additives	Repro- duction and Supplies	Travel	Tel., Tel., and Postage	S/C - Outside	Other	Total
			Tech.	Non-Tech.							
DEPARTMENT											
Division Technical Services	-	-	-	-	-	-	1.6	-	-	.2	1.8
Engineering	1.5	.1	27.3	.4	10.2	.5	7.8	1.0	.1	62.8	110.1
Procurement	17.0	.6	238.6	5.6	90.2	5.9	85.6	14.5	.8	-	441.2
Construction	.3	-	4.0	-	3.2	-	14.0	-	-	-	26.2
Project Management	-	-	-	-	-	-	-	-	-	-	-
Other Divisional	-	-	-	.1	.1	.1	-	.6	-	-	.9
Controller	-	3.0	-	24.8	8.2	2.7	.8	1.5	.3	-	38.3
Personnel	-	-	-	-	-	-	-	-	-	-	-
Labor Relations	-	1.5	-	27.8	10.2	.3	7.9	.9	.1	-	47.2
Legal & Insurance	-	.3	-	4.4	1.6	-	.5	.1	2.0	-	8.6
Data Processing	-	-	-	-	-	-	-	-	-	-	-
Other Corporate Services	.6	.2	7.6	2.8	3.5	.5	2.8	7.8	-	4.0	29.0
Field Assignment (Function 10)	.1	-	1.3	-	.4	11.7	1.6	1.1	-	1.4	17.5
TOTAL COSTS (Reimb.) (Excluding AFI)	19.5	5.7	283.8	65.9	127.6	21.7	122.6	27.5	3.3	68.4	720.8
INTEROFFICE BILLINGS											
ANN ARBOR - 4x	-	-								.1	.1
6x79x	-	.4								15.6	15.6
GAITHERSBURG - 3x	-	-								.8	.8
- 6x79x	-	.1								1.7	1.7
- 5x	-	-								.1	.1
EDMONTON - 5x	.1	-								7.7	7.7
TOTAL 10B										26.0	26.0

HOME OFFICE COSTS BY OFFICE

PHR 1.7-2

1.8 SCHEDULE DATA

100000

REPORT OF THE COMMISSIONER OF THE
BUREAU OF LAND MANAGEMENT

REPORT NO. 100000

REPORT OF THE COMMISSIONER OF THE
BUREAU OF LAND MANAGEMENT

REPORT OF THE COMMISSIONER OF THE
BUREAU OF LAND MANAGEMENT

REPORT OF THE COMMISSIONER OF THE
BUREAU OF LAND MANAGEMENT

REPORT OF THE COMMISSIONER OF THE
BUREAU OF LAND MANAGEMENT

100000

100000

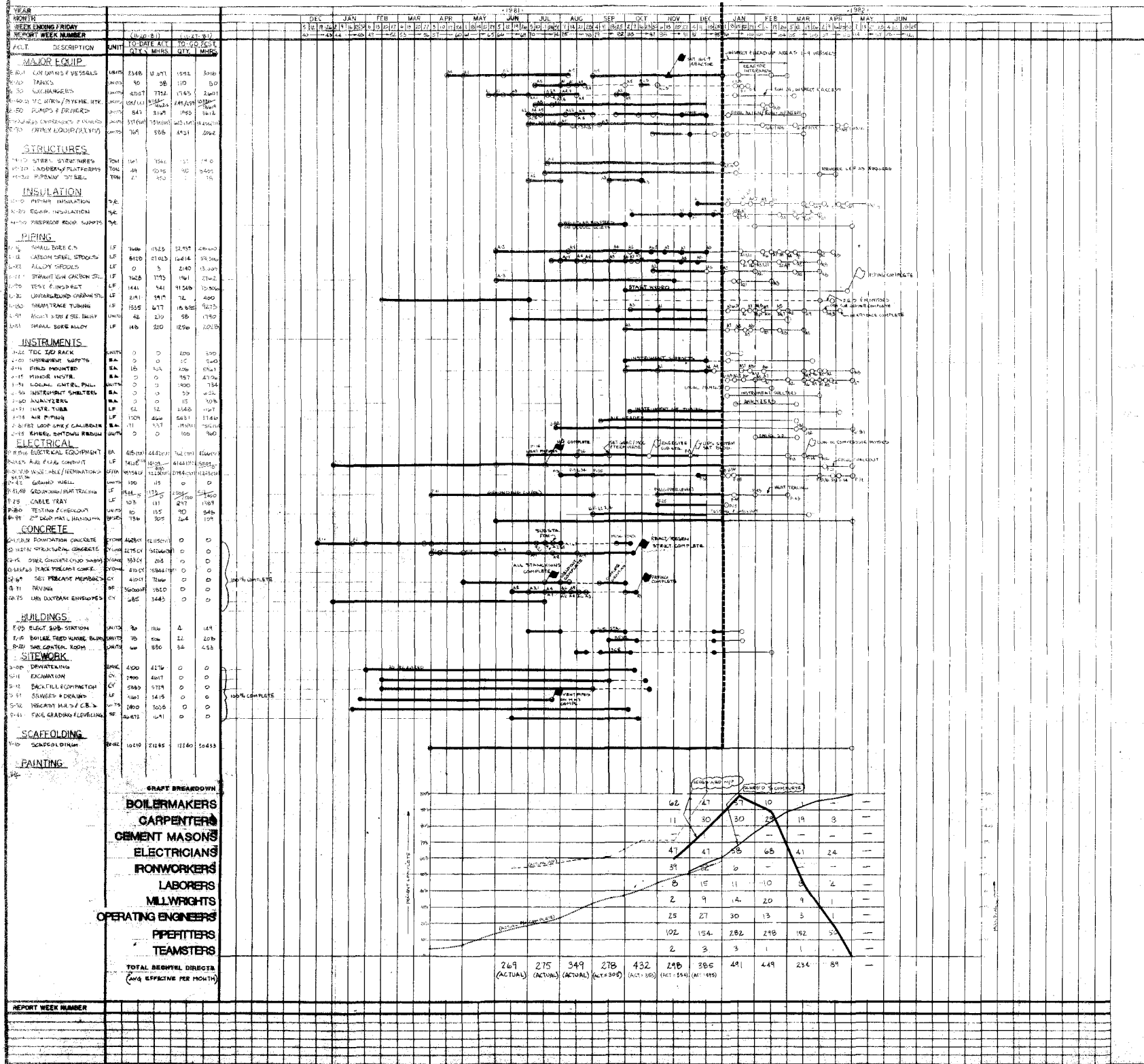
REPORT OF THE COMMISSIONER OF THE
BUREAU OF LAND MANAGEMENT

REPORT OF THE COMMISSIONER OF THE
BUREAU OF LAND MANAGEMENT

REPORT OF THE COMMISSIONER OF THE
BUREAU OF LAND MANAGEMENT

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BUREAU OF LAND MANAGEMENT

REPORT OF THE COMMISSIONER OF THE
BUREAU OF LAND MANAGEMENT



LEGEND

- REPORT DATE LINE-INDICATES PROGRESS
AS OF FRIDAY CUTOFF FOR LINE TAPED

PROGRESS

- WORK ACTIVITY
--- FLOAT/RESTRAINT
- IFA - SCHED. ISSUE FOR APPROVAL
IFA - ISSUED. COMPLETE
IFC - SCHED. ISSUE TO CONSTRUCTION
IFC - ISSUED. COMPLETE
O - SCHED. WORK ITEM START OR END
● - WORK ITEM STARTED - IF NO WORK ITEM
FOLLOWS IT CAN ALSO INDICATE COMPLE-
TION.
□ - BEHTEL. APPVD. VENDOR PRINTS
◇ - FIELD NEED DATE
◇ - DELIVERY DATE

GENERAL NOTES

1. PROGRESS LINES BASED ON WEEKS OF WORK
AHEAD OR BEHIND COST #3 260 DAY DELIVERY

[illegible]

JOB NO. 14053
DESCRIPTION RRMP
CLIENT MARATHON OIL CO.
LOCATION ROBINSON, ILLIN

SCHEDULE SUMMARY

JOB OVERALL

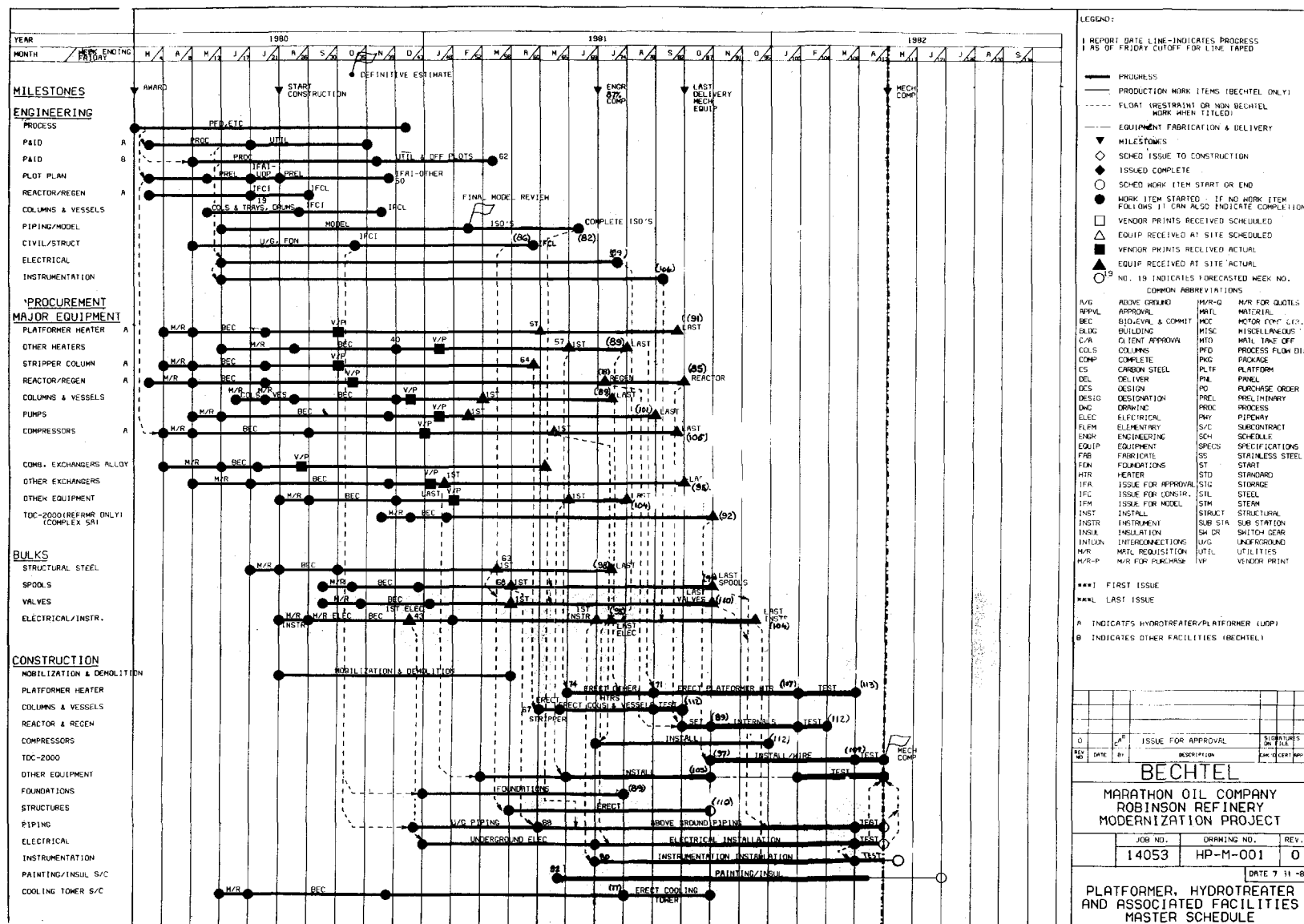
CONST. DATES 10/80 TO 4/82
TOTAL DURATION 82 WEEKS

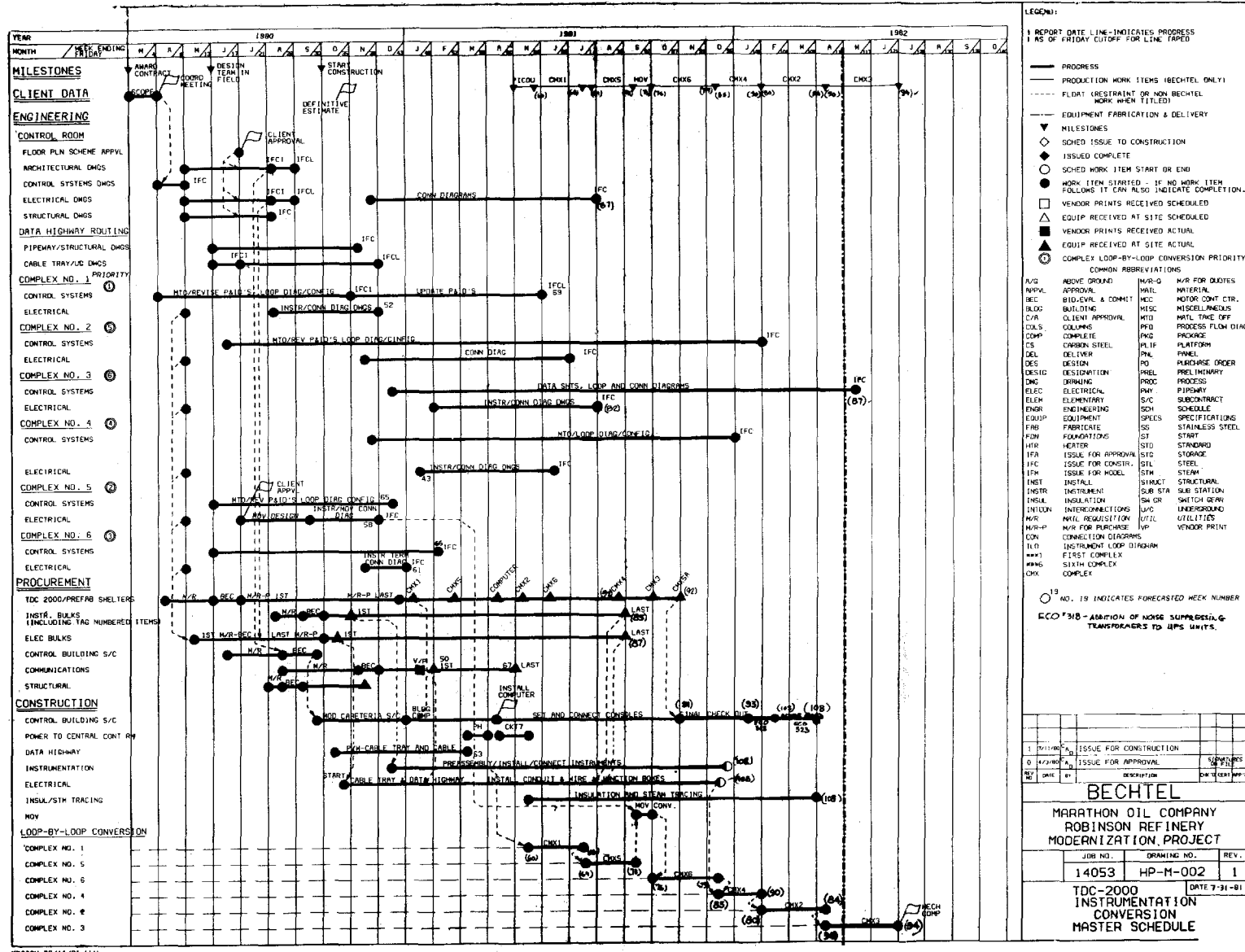
GENERAL DATA				EPC MILESTONES						
SCOPE OF WORK <u>EPC</u>		STANDARD WORK WEEK <u>40 MTRS /WK</u>		PLANNED		ACTUAL				
DATE OF AWARD <u>3/80</u>		Describe any special sustained overtime		ACTIVITY	QUANTITY	START	COMPLETE	START	COMPLETE	COMMENTS
FINAL MECHANICAL COMPLETION <u>4/30/82</u>		2ND SHIFT FOR REACT/REGEN STRUCTURE		HOME OFFICE						
ENGINEERING PERIOD <u>3/1/80 TO 3/12/82</u>		4/5 → 10/14/81; PIPING NIGHT SHIFT - 12/11/81 → 4/30/82		PROCESS FLOW DIAGRAMS	35	4/80	12/80	4/80	12/80	
MONTHS TO 90% ENGINEERING COMPLETION <u>18 1/2 MO.</u>				P&ID'S	133	4/80	4/81	4/80	5/81	
				MODEL	PLTS 16, 23 & 28	5/80	6/81	5/80	7/81	
				PROCESS DATA SHEETS	41	4/80	8/80	4/80	8/80	
				TREND BASE ESTIMATE	1EA.	4/80	5/80	4/80	5/80	
				DEFINITIVE ESTIMATE	1EA.	9/80	10/80	9/80	10/80	
				ISOMETRICS	1841	1/81	6/81	2/81	9/81	
				SPOOL FABRICATION	2140 SPOOLS	12/80	10/81	12/81	1/82	
				STEEL FABRICATION	973 TONS	10/80	7/81	10/80	1/82	
				B.E.C. MAJOR EQUIPMENT	CATALOGUES	5/80	1/81	5/80	1/81	
				CONTROL VALVES (PURCH.)	247	7/80	10/81	7/80	4/82	
				FIELD (EXCL. TDC)						
				SITE PREP (PIPEWAY RELOCATION)	1 LOT	9/80	11/80	10/80	2/81	
				TEMPORARY OFFICE/WHSE	9800 MTRS	8/80	9/80	8/80	12/80	
				TEMPORARY ELECTRICAL	3000 MTRS	8/80	9/80	8/80	12/80	
				TEMPORARY WATER/SEWER	1300 MTRS	8/80	9/80	8/80	12/80	
				FOUNDATIONS	6195 CY	11/80	5/81	12/80	10/81	
				UNDERGROUND PIPE (L-TO)	65951 LF	1/81	3/81	2/81	4/81	
				FIELD ERECTED VESSELS	69 EA.	5/81	2/82	4/81	2/82	
				FIELD ERECTED TANKS	8 EA.	N/A	N/A	7/81	4/82	
				ERECT STRUCTURAL STEEL (HIO)	318 TN.	4/81	11/81	7/81	3/82	
				ST. RUN PIPE	42470 LF	6/81	7/81	6/81	2/82	
				SPOOLED PIPE	49941 LF	7/81	2/82	7/81	3/82	
				PIPE TESTING	193153 LF	11/81	3/82	9/81	4/82	
				A/G CONDUIT	133620 LF	9/81	2/82	9/81	4/82	
				ELECTRICAL CHECKOUT	419 EA.	2/82	4/82	9/81	4/82	
				LOOP CHECK	957 EA.	1/82	4/82	3/82	5/82	
				INSULATION	123233 ELF	11/81	5/82	10/81	8/82	
INSTALLATION RATES AND ACTIVITY DURATIONS										
ACTIVITY	SUSTAINED INST. RATE	CONSTR. DURATION	ACTIVITY	SUSTAINED INST. RATE	CONSTR. DURATION					
ST. RUN PIPE	4941 LF / MO.	6/81 - 2/82	PILING	-	-					
SPOOLED PIPE	7642 LF / MO.	7/81 - 3/82	FOUNDATIONS	885 CY / MO.	2/81 - 10/81					
STRESS RELIEVING	N/A	10/81 - 3/82	A/G CONDUIT	15196 LF / MO.	9/81 - 4/82					
STRUCTURAL STEEL	41.5 TN. / MO.	7/81 - 3/82	WIRE & CABLE (P. 31)	53352 LF / MO.	8/81 - 4/82					
LOOP CHECK	293 EA. / MO.	3/82 - 5/82	INITIAL CONSTR. ACTIVITY TO START OF FOUNDATIONS	N/A	8/80 - 2/81					

SCHEDULE SUMMARY

PHR 1.8-1

GARRARD 000000653





The following examples of schedules illustrate the types and detail of schedules used on the project.

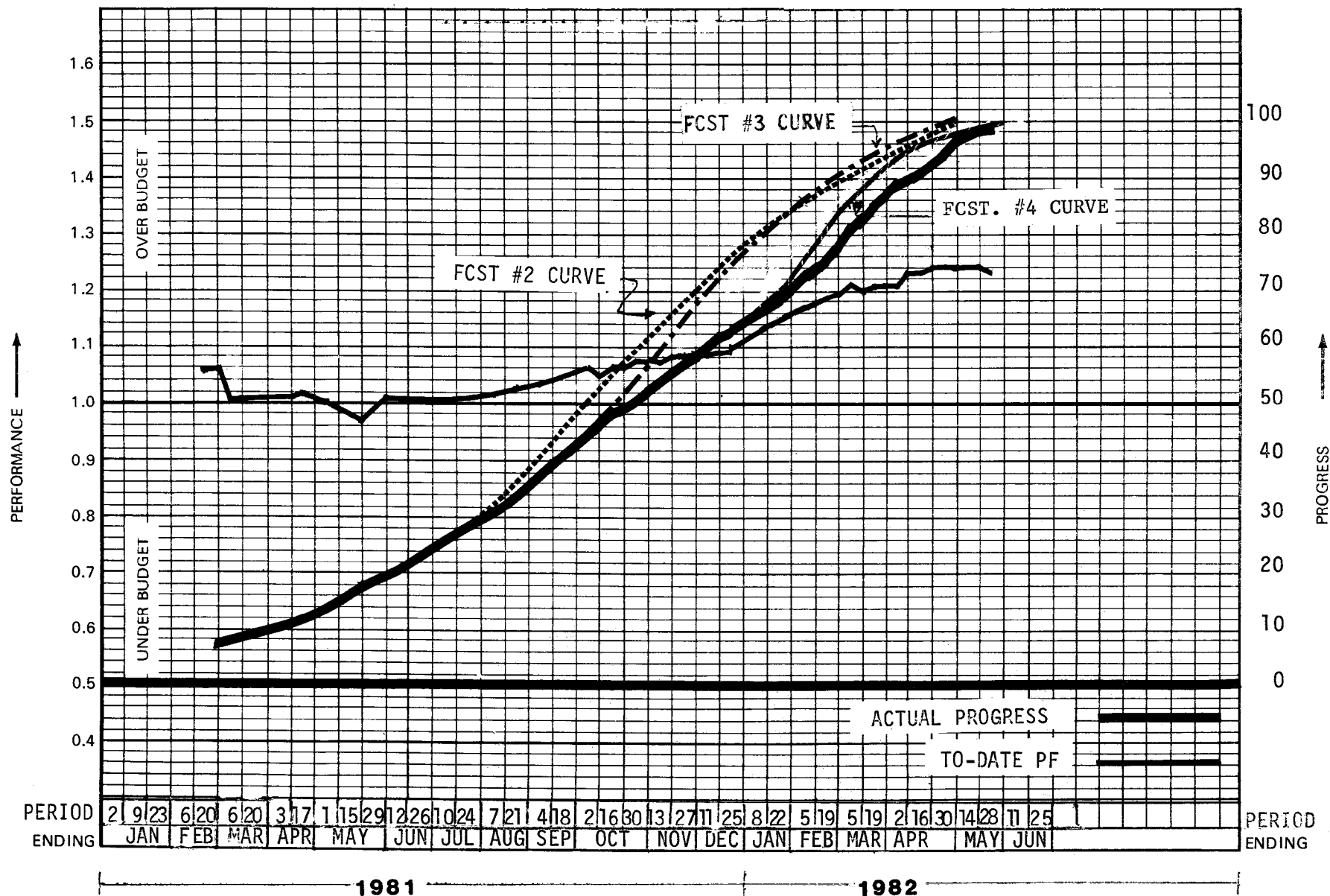


Job No. 14053

PROGRESS & PERFORMANCE CURVES

PROJECT FORECAST # 4

CATEGORY	TOTAL PROJECT
1. General Administration	100
2. Planning and Development	100
3. Finance and Accounting	100
4. Personnel and Training	100
5. Health and Welfare	100
6. Education and Culture	100
7. Social Services	100
8. Housing and Urban Development	100
9. Transportation and Infrastructure	100
10. Environment and Natural Resources	100
11. Agriculture and Forestry	100
12. Industry and Commerce	100
13. Science and Technology	100
14. Law and Order	100
15. International Relations	100
16. Defense and Security	100
17. Miscellaneous	100



BECHTEL

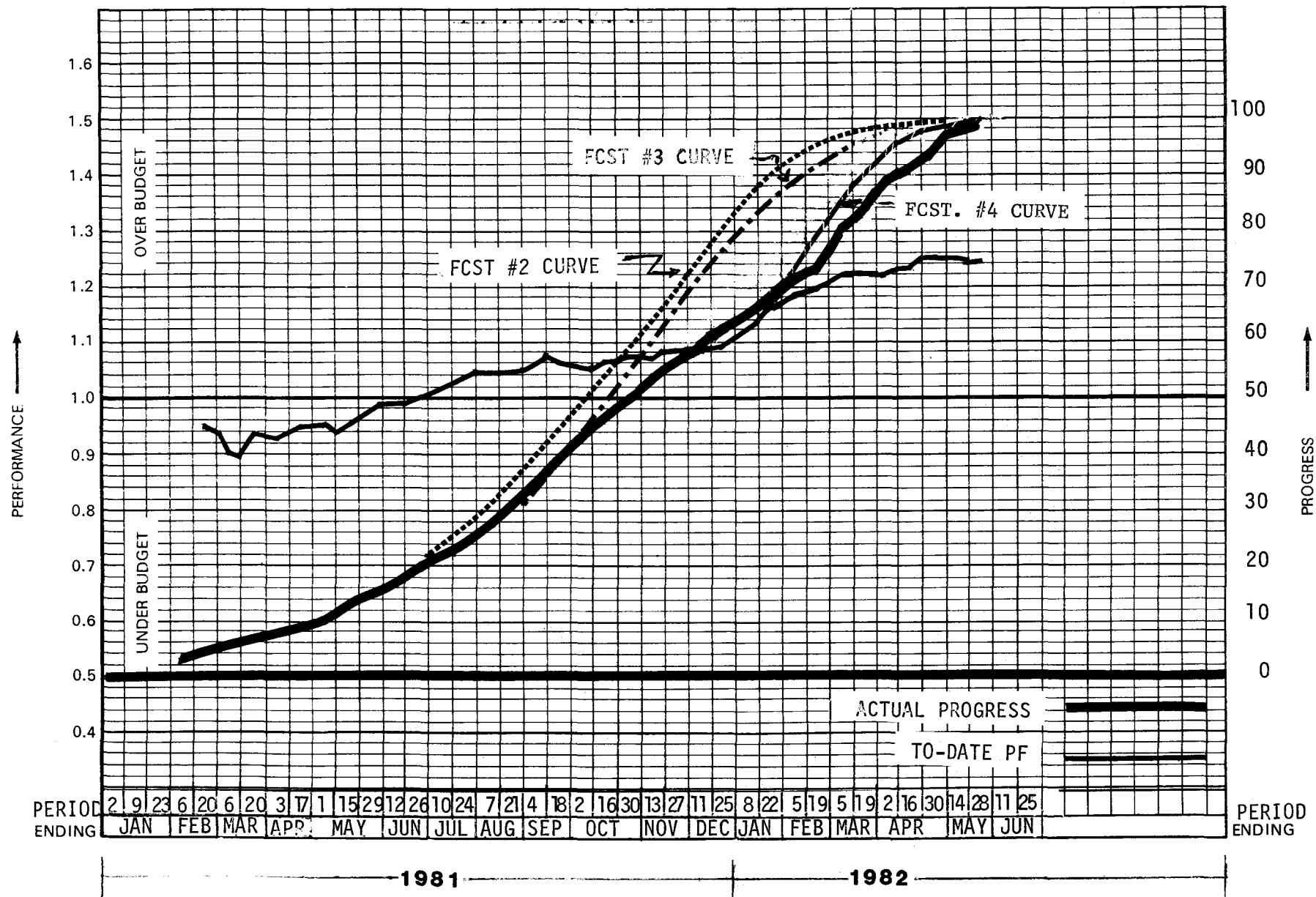


Job No. 14053

PROGRESS & PERFORMANCE CURVES

PROJECT FORECAST # 4

CATEGORY TOTAL DIRECTS (INCL S/C)



GARRARD 00000658

BECHTEL



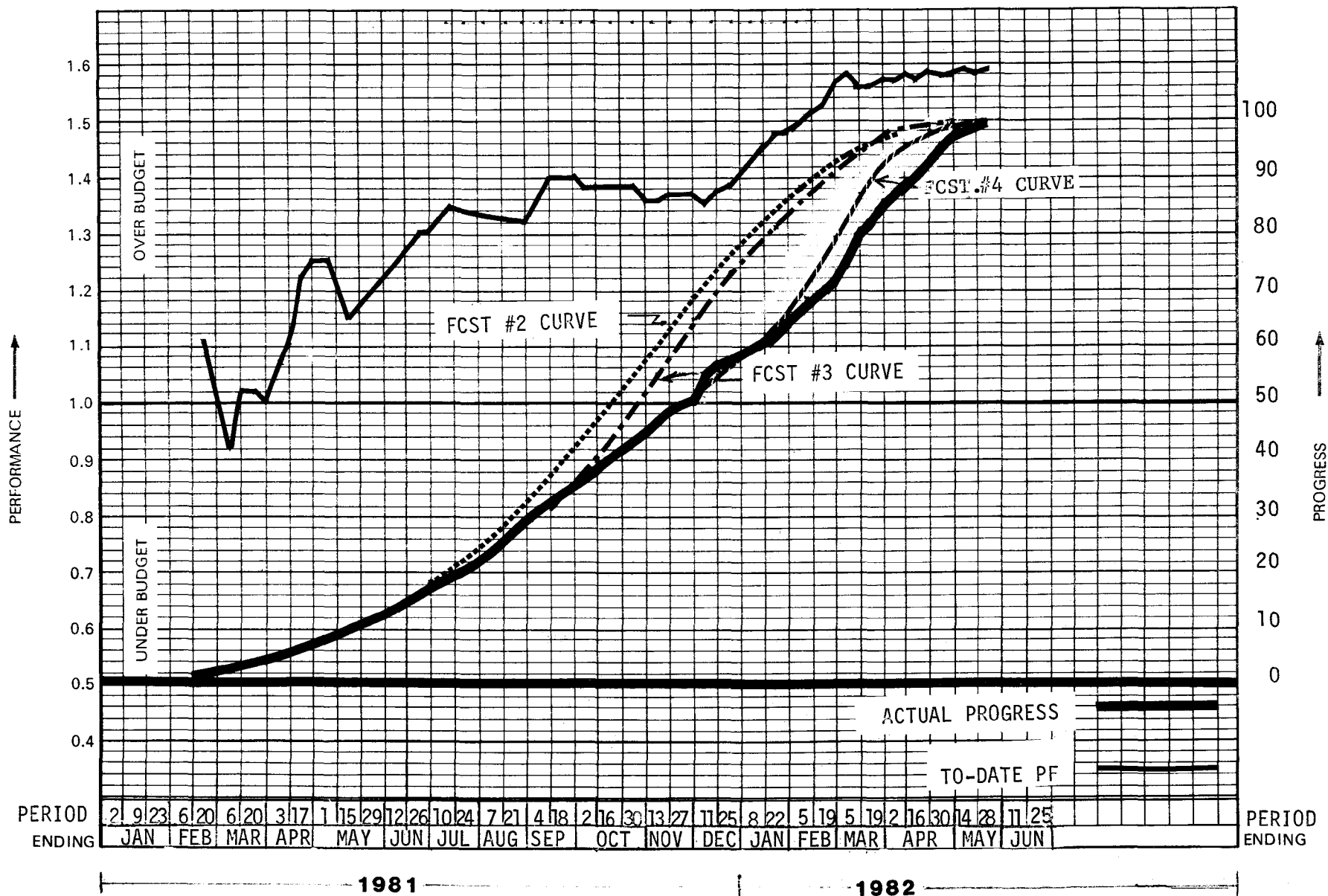
Job No. 14053

PROGRESS & PERFORMANCE CURVES

AREA A

PROJECT FORECAST # 4

CATEGORY HYDROTREATER/PLATFORMER



GARRARD 00000659

BECHTEL



Job No. 14053

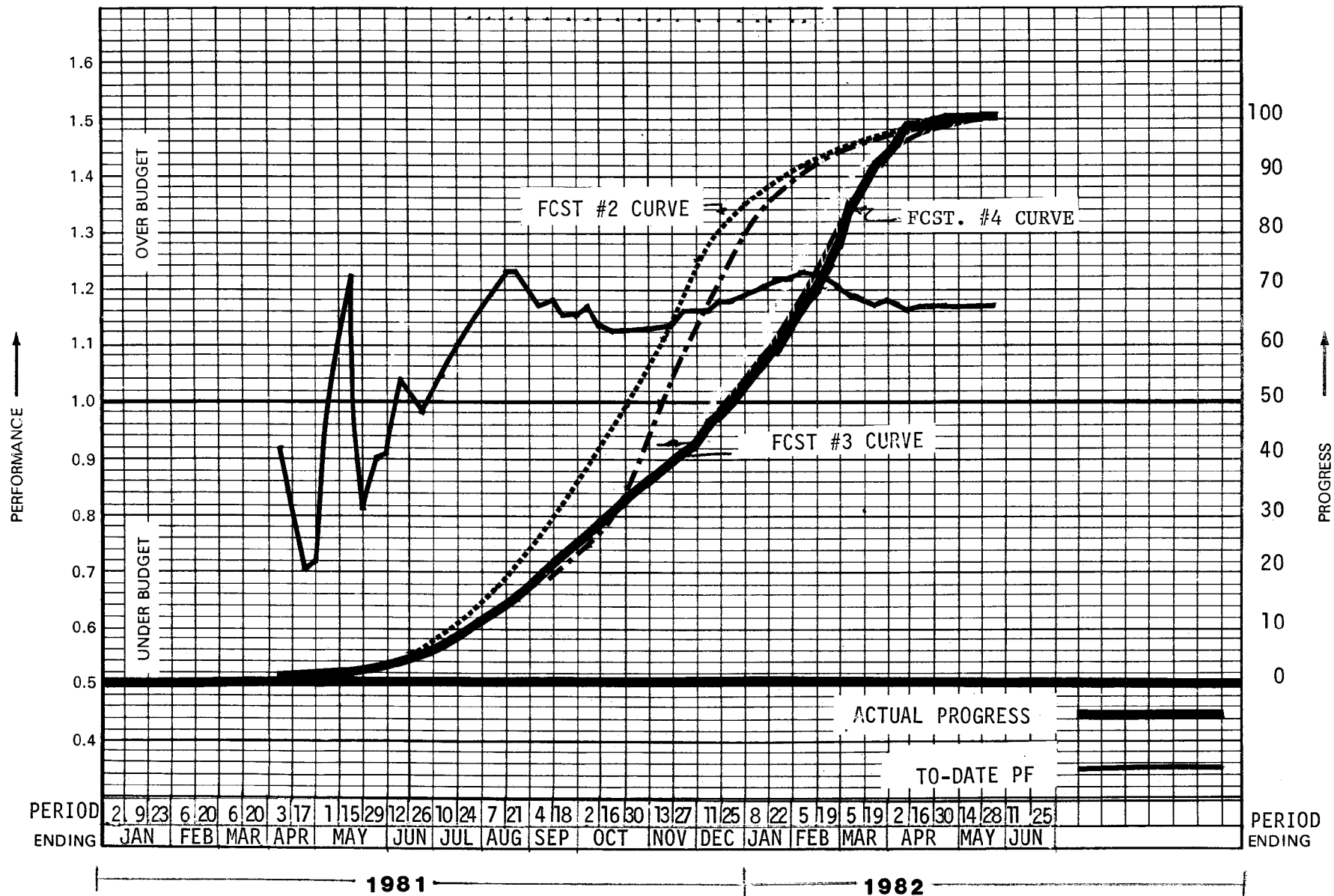
PROGRESS & PERFORMANCE CURVES

PROJECT FORECAST # 4

AREA B

SATURATES GAS PLANT

CATEGORY AND OFF-PLOTS



1981

1982

GARRARD 00000660

BECHTEL



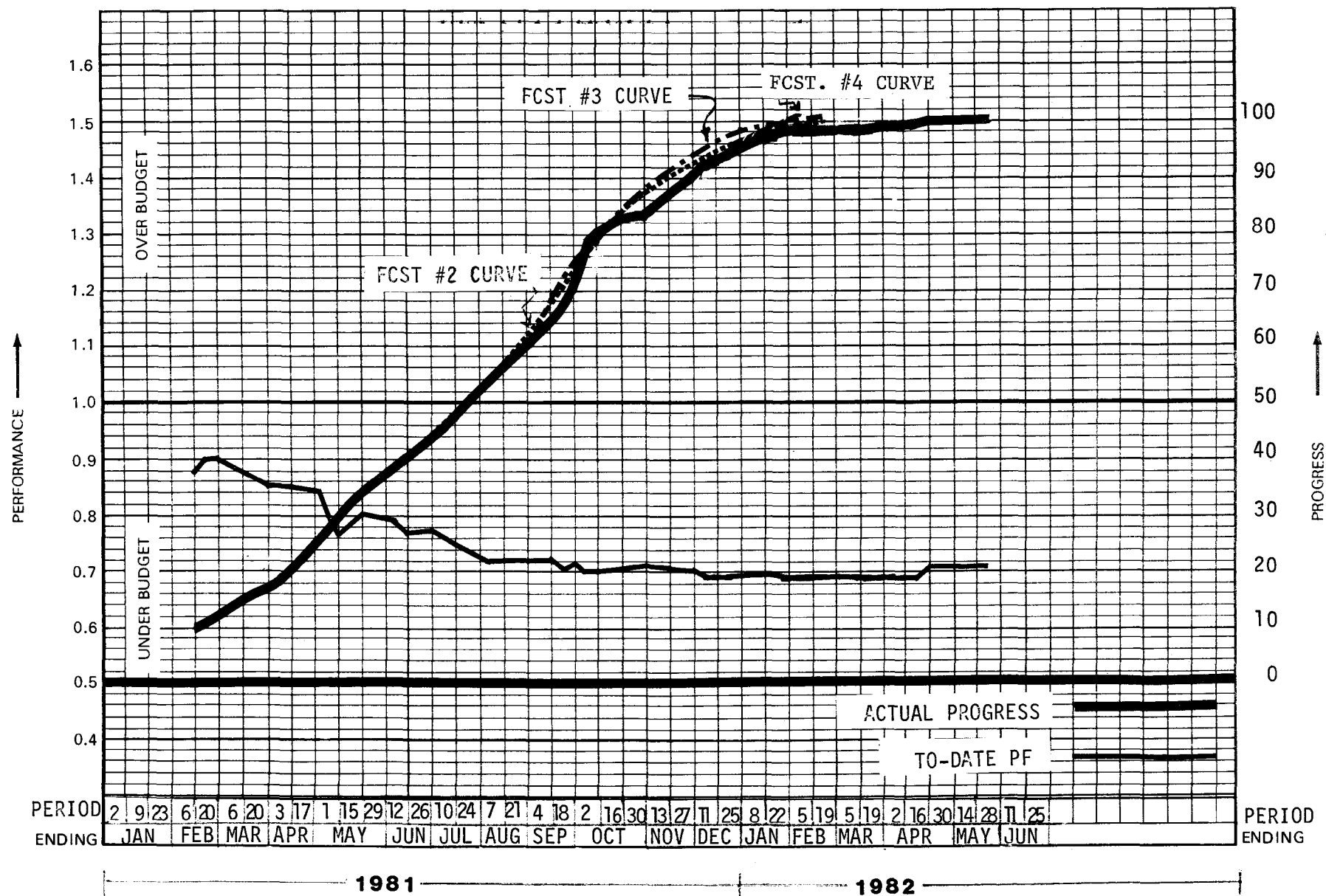
Job No. 14053

PROGRESS & PERFORMANCE CURVES

PROJECT FORECAST # 4

AREA C

CATEGORY TDC-2000



1981

1982

GARRARD 00000661

BECHTEL

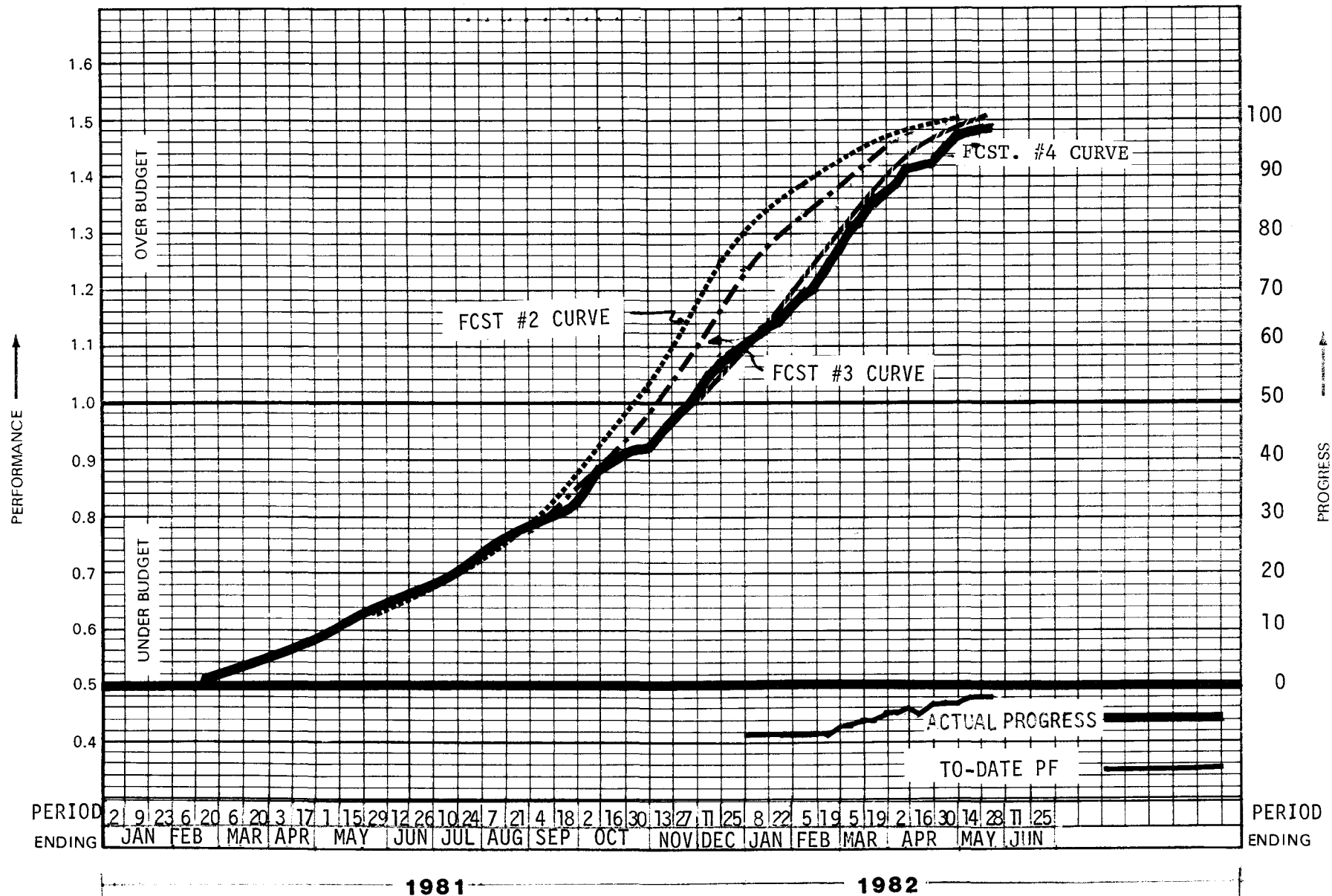


Job No. 14053

PROGRESS & PERFORMANCE CURVES

PROJECT FORECAST # 4

CATEGORY INSTRUMENTATION "J"



GARRARD 00000662

BECHTEL

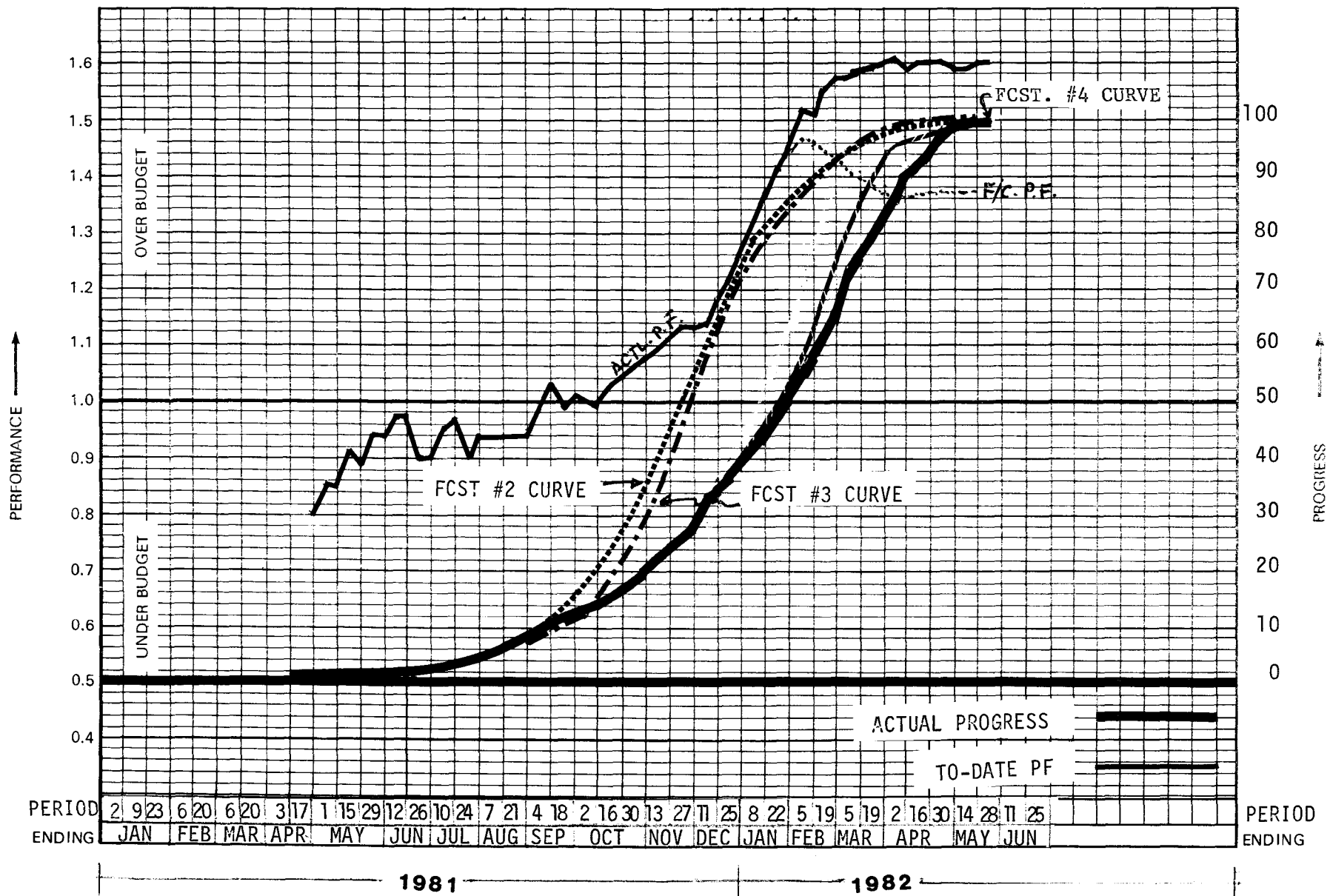


Job No. 14053

PROGRESS & PERFORMANCE CURVES

PROJECT FORECAST # 4

CATEGORY PIPING "L"



GARRARD 00000663

BECHTEL

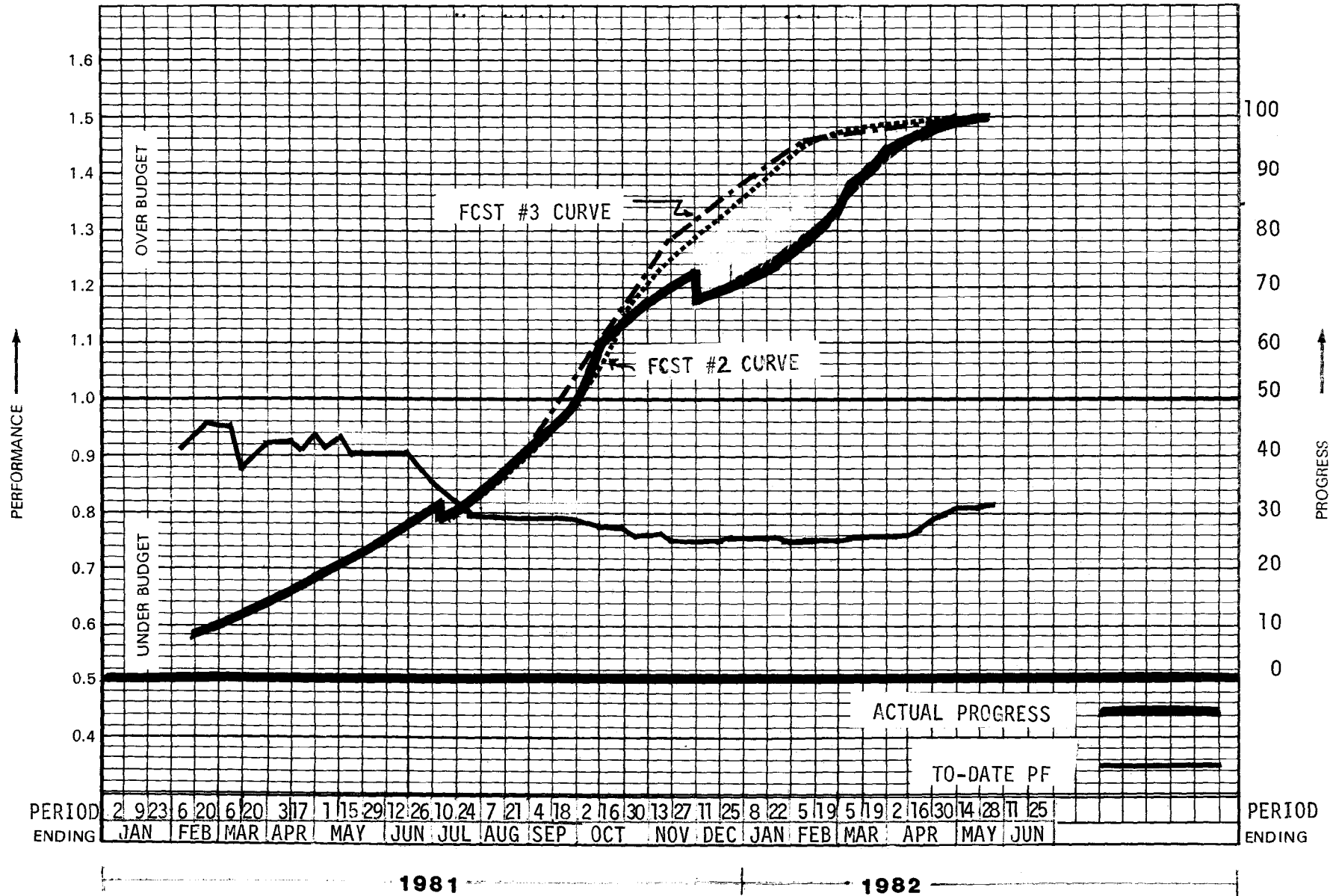


Job No. 14053

PROGRESS & PERFORMANCE CURVES

PROJECT FORECAST # 4

CATEGORY ELECTRICAL "P"



1.9 FOCUS REPORT

RECEIVED
J. A. Oakland
30 JUN 1982

B E C H T E L
FORECAST CONTROL AND UPDATING SYSTEM-FOCUS 7

JOB NUMBER 14053-000 RUN NO. 72

PROJECT TITLE ROBINSON REFINRY MODERNZTN PROJ-MOC

CUT-OFF DATE 5/21/82

PROJECT START DATE 10/06/80

USERS MANUAL DATE-JANUARY ,1982

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38022-40

F O C U S
MASTER FILE LISTING

RUN DATE 5/24/82
PAGE 1

00										CUT-OFF DATE 5/21/82			

		UNITS		CURRENT	BUDGET	TO-DATE	PROGRESS	PROJECT	FORECAST	TREND		PHYS	
		OF								FCST		PCT	
ACCT. NO	DESCRIPTION OF ACCOUNT	RC	QUANT	QUANT	MANHOURS	QUANT	MANHOURS	QUANT	MANHOURS	MANHOURS	METHOD	COMP	COMP

A06L10	S/B 6 STM.TRACE SUBHDS.	LF	10	11	402	589	402	589	589	589	CURVE-O	100	100
A06L11L1	SMALL BORE CS PIPE S/A 6	LF	689	524	794	1375	794	1375	1375	1375	CURVE-L	100	100
A06L12L2	LARGE BORE CS PIPE S/A 6	LF	343	721	505	1175	505	1175	1175	1175	CURVE-L	100	100
A06L80LL	STEAM TRACE TUBING S/A 6	LF	20	11	844	491	844	491	491	491	CURVE-L	100	100
A06L81	S/B 6 DEKATRACE	LF	20	11	1148	368	1148	368	368	368	CURVE-O	100	100
A11L10	S/B 1 STM.TRACE SUBHDS.	LF	10	11	357	739	357	739	739	739	CURVE-O	100	100
A11L11L1	SMALL BORE CS PIPE S/A 1	LF	2031	2267	2169	6726	2169	6726	6726	6726	CURVE-L	100	100
A11L12L2	LARGE BORE CS PIPE S/A 1	LF	1652	3918	3070	9299	3070	9299	9299	9299	CURVE-L	100	100
A11L80LL	STEAM TRACE TUBING S/A 1	LF	20	11	632	431	632	431	431	431	CURVE-L	100	100
A11L81	S/B 1 DEKATRACE	LF	20	11	1456	794	1456	794	794	794	CURVE-O	100	100
A12L10	S/B 2 STM.TRACE SUBHDS.	LF	10	11	1432	2811	1432	2811	2811	2811	CURVE-O	100	100
A12L11L1	SMALL BORE CS PIPE S/A 2	LF	5395	5867	5267	19608	5267	19410	19608	19608	CURVE-L	100	100
A12L12L2	LARGE BORE CS PIPE S/A 2	LF	2436	5116	4623	17811	4623	17803	17811	17811	CURVE-L	100	100
A12L22L4	LARGE BORE AL PIPE S/A 2	LF	357	1591	505	2377	505	2377	2377	2377	CURVE-L	100	100
A12L80LL	STEAM TRACE TUBING S/A 2	LF	20	11	2785	1519	2785	1519	1519	1519	CURVE-L	100	100
A12L81	S/B 2 DEKATRACE	LF	20	11	4200	754	4200	754	754	754	CURVE-O	100	100
A13L10	S/B 3 STM.TRACE SUBHDS.	LF	10	11	449	1115	449	1115	1115	1115	CURVE-O	100	100
A13L11L1	SB CS PIPE-RACK S/A 3	LF	3100	8302	3189	6785	3189	6785	6785	6785	CURVE-L	100	100
A13L12L2	LB CS SPOOLS S/A 3	LF	463	1115	866	7677	866	7677	7677	7677	CURVE-L	100	100
A13L17L2	LB CS PIPE-RACK S/A 3	LF	13245	11746	6676	5717	6676	5717	5717	5717	CURVE-L	100	100
A13L21L1	SB ALLOY PIPE-RACK S/A 3	LF	331	1041	192	294	192	294	294	294	CURVE-L	100	100
A13L80LL	STEAM TRACE TUBING S/A 3	LF	20	11	2408	966	2408	966	966	966	CURVE-L	100	100
A13L81	S/B 3 DEKATRACE	LF	20	11	2520	1293	2520	1293	1293	1293	CURVE-O	100	100
A14L10	S/B 4 STM.TRACE SUBHDS	LF	10	11	1155	1620	1155	1620	1620	1620	CURVE-O	100	100
A14L11L1	SMALL BORE CS PIPE S/A 4	LF	2555	2512	2496	9357	2496	9357	9357	9357	CURVE-L	100	100
A14L12L2	LARGE BORE CS PIPE S/A 4	LF	2177	5270	4003	16034	4003	16034	16034	16034	CURVE-L	100	100
A14L80LL	STEAM TRACE TUBING S/A 4	LF	20	11	1257	816	1257	816	816	816	CURVE-L	100	100
A14L81	S/B 4 DEKATRACE	LF	20	11	2100	856	2100	838	856	856	CURVE-O	100	100
A15L10	S/B 5 STM.TRACE SUBHDS.	LF	10	11	345	516	345	516	516	516	CURVE-O	100	100
A15L11L1	SMALL BORE CS PIPE S/A 5	LF	2852	2675	5248	17639	5248	18199	17639	17639	CURVE-L	100	100
A15L12L2	LARGE BORE CS PIPE S/A 5	LF	1430	3132	3503	21512	3503	21462	21512	21512	CURVE-L	100	100
A15L21L1	SMALL BORE AL PIPE S/A 5	LF	651	751	496	958	496	958	958	958	CURVE-L	100	100
A15L22L4	LARGE BORE AL PIPE S/A 5	LF	121	574	327	5052	327	5052	5052	5052	CURVE-L	100	100
A15L80LL	STEAM TRACE TUBING S/A 5	LF	20	11	1847	875	1847	875	875	875	CURVE-L	100	100
A15L81	S/B 5 DEKATRACE	LF	20	11	1904	761	1904	741	761	761	CURVE-O	100	100
A16E10EE	ERECT COLUMNS & VESSELS	UNITS	4200	5399	3900	10904	3900	10878	10904	10904	CURVE-E	100	100
A16E11EE	ERECT PLATFORMNG REACTOR	UNITS	100	4500	100	6536	100	6536	6536	6536	CURVE-E	100	100
A16E12EE	LOAD CATALYST	CF	0	0	0	0	0	0	0	0	BLOCK-E	0	0
A16E20EE	ERECT STORAGE TANKS	UNITS	400	168	200	54	200	54	54	54	CURVE-E	100	100
A16E30EE	ERECT HEAT EXCHANGERS	UNITS	4500	7500	4600	11194	4600	11162	11194	11194	CURVE-E	100	100
A16E40EE	ERECT FIRED HEATERS	UNITS	400	7181	400	29809	400	29809	29809	29809	CURVE-E	100	100
A16E41EE	ERECT PLTFRM HEATER 16F3	UNITS	400	21135	400	49480	400	49354	49480	49480	CURVE-E	100	100
A16E50EE	INSTALL PUMPS & DRIVERS	UNITS	3600	5223	2800	5824	2800	5824	5824	5824	CURVE-E	100	100
A16E60EE	BLOWERS AND SPARES	UNITS	500	1000	500	1771	500	1771	1771	1771	CURVE-E	100	100
A16E61EE	INSTALL GAS BOOSTER COMP	UNITS	200	9900	200	7573	200	7573	7573	7573	CURVE-E	100	100
A16E62EE	RECYCLE GAS CENTRIF COMP	UNITS	100	6600	100	4669	100	4669	4669	4669	CURVE-E	100	100
A16E63EE	RECYCLE GAS COMPRESSORS	UNITS	200	3300	200	2341	200	2341	2341	2341	CURVE-E	100	100
A16E70EE	INSTALL OTHER EQUIPMENT	EA	3200	1983	5900	1075	5900	1075	1075	1075	CURVE-E	100	100

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		UNITS	CURRENT	BUDGET	TO-DATE	PROGRESS	PROJECT	FORECAST	TREND	PHYS	TREND		
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A16J01J9	FAB INSTRUMENT SUPPORTS	EA	102	1995	35	373	35	373	373	CURVE-J	100	100	
A16J11J9	FIELD MOUNTED INSTRUMNTS	EA	177	8179	203	4109	203	4109	4109	CURVE-J	100	100	
A16J15J9	INSTALL MINOR INSTRUMNTS	EA	779	7626	900	2817	900	2850	2817	CURVE-J	100	100	
A16J22J	IDC I/O RACK	UNITS	2	3	300	276	300	276	276	CURVE-J	100	100	
A16J31JJ	LOCAL CONTROL PANEL	UNITS	100	140	1900	792	1900	768	792	CURVE-J	100	100	
A16J50JJ	INSTRUMENT SHELTERS	EA	147	2627	32	233	32	217	233	CURVE-J	100	100	
A16J60JJ	ANALYZER & CONTROL PCKGE	EA	83	7266	15	645	15	627	645	CURVE-J	100	100	
A16J71JJ	INSTR AIR TUBING	LF	1574	670	3100	1423	3100	1361	1423	CURVE-J	100	100	
A16J74JJ	INSTR AIR SUB-HEADERS	LF	3383	2365	7040	5375	7040	5224	5375	CURVE-J	100	100	
A16J81JJ	LOOP CHECK	LOOPS	164	1645	526	3732	683	3175	4870	CURVE-J	77	77	
A16J82JJ	CALIBRATION & TESTING	EA	1077	6515	634	2709	645	3286	2747	CURVE-J	98	99	
A16J95JJ	EMERGENCY SD REDUNDANCY	UNITS	100	1177	100	453	100	453	453	CURVE-J	100	100	
A16L11LL	INST CS PIPE 2IN & UNDER	LF	6790	7609	0	0	0*	0	0	BLOCK-1	0	0	
A16L12	DELETE	ZZZZZ	0	0	0	0	0	0	0	BUDGET	0	0	
A16L24L4	INST AL RACK LARGE BORE	LF	992	752	0	0	0	0	2068	BLOCK-4	0	0	
A16L70LL	INST L/G PIPING	LF	2301	5083	2303	6263	2303	6263	6263	CURVE-L	100	100	
A16L80LL	INSTALL STM TRACE TUBING	LF	6412	3432	0	0	0*	0	0	BLOCK-L	0	0	
A16L81		LF	0	0	0	0	0	0	0	BUDGET	0	0	
A16L91LL	ASSIST XRAY & ST RELIEVE	UNITS	200	1400	200	3471	200	3471	3471	CURVE-L	100	100	
A16L98LL	TESTING & INSPECTION	LF	63033	6698	90432	16579	90432	16547	16579	CURVE-L	100	100	
A16M10MM	STEEL STRUCTURES	TONS	387	14530	300	17477	300	17477	17477	CURVE-M	100	100	
A16M20MM	LADDERS & PLATFORMS	TONS	58	4575	140	13144	140	13144	13144	CURVE-M	100	100	
A16M30MM	PIPEWAY STEEL	TONS	12	450	22	1024	22	1024	1024	CURVE-M	100	100	
A16N30 0	FIREPROOFING LUGS	UNITS	1	1	827	849	827	849	849	CURVE-O	100	100	
A16P12PP	POWER & CONTROL EQUIP	EA	127	6218	204	5745	204	5664	5745	CURVE-P	100	100	
A16P13PP	EMERGENCY & STANDBY EQUIP	EA	17	800	16	524	16	524	524	CURVE-P	100	100	
A16P14PP	LIGHT FIXTURES & RECEPTL	EA	310	1498	593	4093	593	4054	4093	CURVE-P	100	100	
A16P16PP	REDUNDANCY ALARMS	EA	259	320	0	0	0*	0	0	BLOCK-P	0	0	
A16P21P6	INSTALL A/G RGS CONDUIT	LF	52878	29106	79819	47120	79819	45960	47120	CURVE-P	100	100	
A16P23P6	INSTALL NON-MET CONDUIT	LF	25500	4117	17676	4183	17676	4183	4183	CURVE-P	100	100	
A16P25P8	INSTALL CABLE TRAY	LF	10	15	895	1272	895	1268	1272	CURVE-P	100	100	
A16P31P7	PULL WIRE 600V & 1KV	LF	297010	8448	252905	6732	252905	6701	6732	CURVE-P	100	100	
A16P32P7	PULL CABLE 5KV & ABOVE	LF	14400	1110	18285	725	18285	725	725	CURVE-P	100	100	
A16P33P7	PULL ELECTRNIC & TC WIRE	LF	94200	4624	86150	4961	86150	4961	4961	CURVE-P	100	100	
A16P34PP	TERMINATIONS 600V & 1KV	EA	4148	2353	5786	4092	5786	4029	4092	CURVE-P	100	100	
A16P35PP	TERMINATIONS 5KV & ABOVE	EA	102	320	117	486	117	467	486	CURVE-P	100	100	
A16P36PP	TERMINATIONS ELECTR & TC	EA	6467	3697	7254	4495	7254	4485	4495	CURVE-P	100	100	
A16P41PP	GROUNDING	UNITS	10900	3487	21815	2580	21815	2495	2580	CURVE-P	100	100	
A16P42PP	INSTALL GROUND WELL	EA	100	236	100	115	100	115	115	CURVE-P	100	100	
A16P43PP	ELECT HEAT TRACING	LF	8600	8256	2500	1888	2500	2011	1888	CURVE-P	100	100	
A16P50P7	O/H POWER DISTRIBUTION	LF	13	9	0	0	0*	0	0	BLOCK-7	0	0	
A16P80PP	ELECT TESTING & CHECKOUT	UNITS	100	1280	100	1961	100	1949	1961	CURVE-P	100	100	
A16P99 0	SECOND DROP MAT HANDLING	BMHRS	1	1	2000	1799	2000	1799	1799	CURVE-O	100	100	
A16Q01Q0	FABRICATE REBAR	TONS	45	715	45	1266	45	1266	1266	CURVE-Q	100	100	
A16Q11QQ	PLACE FOUNDATION CONC	CY	2646	6350	4627	11098	4628	11098	11100	CURVE-Q	100	100	
A16Q12QQ	PLACE STRUCTURAL CONC	CY	2251	8643	2275	9037	2275	9037	9037	CURVE-Q	100	100	
A16Q15QQ	PLACE OTHER CONCRETE	CY	239	797	333	204	333	204	204	CURVE-Q	100	100	
A16Q21QQ	PLACE FOUNDATION REBAR	TONS	132	3180	401	11622	401	11622	11622	CURVE-Q	100	100	

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		OF		QUANT	MANHOURS	QUANT	MANHOURS	QUANT	MANHOURS	FCST	PCT	PCT	
ACCT. NO	DESCRIPTION OF ACCOUNT	KC	QUANT	MANHOURS	MANHOURS	MANHOURS	MANHOURS	MANHOURS	MANHOURS	METHOD	COMP	COMP	

A16Q22QQ	PLACE STRUCTURAL REBAR	TONS	223	2858	340	21953	341	21953	22038	CURVE-Q	100	100	
A16Q25QQ	PLACE OTHER REBAR	TONS	16	375	0	0	0*	0	0	BLOCK-Q	0	0	
A16Q31QQ	PLACE & STRIP FDN FORMS	SF	17973	6458	31715	28507	31715	28507	28507	CURVE-Q	100	100	
A16Q32QQ	PLACE & STRIP STR FORMS	SF	37906	16672	70113	54213	70113	54213	54213	CURVE-Q	100	100	
A16Q35QQ	PLACE & STRIP OTHER FORM	SF	1640	735	0	0	0*	0	0	BLOCK-Q	0	0	
A16Q61QQ	PLACE PRECAST CONCRETE	CY	478	1147	410	1780	410	1780	1780	CURVE-Q	100	100	
A16Q62QQ	PLACE PRECAST REBAR	TONS	82	1312	139	4193	139	4193	4193	CURVE-Q	100	100	
A16Q63QQ	PLACE PRECAST FORMS	SF	17700	7222	13015	9871	13015	9871	9871	CURVE-Q	100	100	
A16Q69QQ	SET PRECAST CONC ITEMS	CY	478	3824	410	7226	410	7226	7226	CURVE-Q	100	100	
A16Q71QQ	PLACE CONCRETE PAVING	SF	70470	11275	36000	3894	36000	3894	3894	CURVE-Q	100	100	
A16Q73QQ	PLACE CONC ENVELOPES	CY	690	3312	685	3443	685	3443	3443	CURVE-Q	100	100	
A16R03	ELECTRICAL SUBSTATION	UNITS	100	560	100	1341	100	1345	1341	CURVE-Q	100	100	
A16R10	BOILER FEED WATER BLDG.	UNITS	100	270	100	619	100	650	619	CURVE-Q	100	100	
A16R20	SATELLITE CONTROL ROOM	UNITS	100	350	100	1298	100	1300	1298	CURVE-Q	100	100	
A16S03S0	DEWATERING	BMHRS	2800	2800	4100	4673	4100	4673	4673	CURVE-S	100	100	
A16S11S5	EXCAVATION & DISPOSAL	CY	1702	4953	2900	4804	2900	4804	4804	CURVE-S	100	100	
A16S12S5	BACKFILL & COMPACTION	CY	9765	7547	5883	5951	5883	5951	5951	CURVE-S	100	100	
A16S31S5	SEWERS & DRAINAGE	LF	3670	2468	3161	3415	3161	3415	3415	CURVE-S	100	100	
A16S32S5	PRECAST MANHOLES	UNITS	2000	2450	2400	3038	2400	3038	3038	CURVE-S	100	100	
A16S41S5	FINE GRADING & LEVELING	SF	70470	6146	46872	1781	46872	1900	1781	CURVE-S	100	100	
A16Y10 0	SCAFFOLDING	BMHRS	19186	19186	25390	77427	25390	77607	77427	CURVE-Q	100	100	
A17L11L1	SMALL BORE CS PIPE S/A 7	LF	1343	1867	1607	3371	1607	3371	3371	CURVE-L	100	100	
A17L12L2	LARGE BORE CS PIPE S/A 7	LF	1027	2262	1908	6841	1909	6841	6846	CURVE-L	100	100	
A17L21L1	INST AL PIPE 2IN & UNDER	LF	579	1101	336	445	336	445	445	CURVE-L	100	100	
A17L80LL	STEAM TRACE TUBING S/A 7	LF	20	11	434	168	434	168	168	CURVE-L	100	100	
A18L10	S/B 8 STM TRACE SUBHDS.	LF	10	11	1488	3617	1489	3617	3619	CURVE-Q	100	100	
A18L11L1	SMALL BORE CS PIPE S/A 8	LF	6978	8722	6732	22072	6732	21226	22072	CURVE-L	100	100	
A18L12L2	LARGE BORE CS PIPE S/A 8	LF	2081	4100	2832	22114	2832	22007	22114	CURVE-L	100	100	
A18L21L1	SMALL BORE AL PIPE S/A 8	LF	304	475	121	327	121	327	327	CURVE-L	100	100	
A18L22L4	LARGE BORE AL PIPE S/A 8	LF	907	4017	1289	18764	1289	18764	18764	CURVE-L	100	100	
A18L80LL	STEAM TRACE TUBING S/A 8	LF	20	11	3710	3652	3712	3552	3654	CURVE-L	100	100	
A18L81	S/B 8 DEKATRACE	LF	20	11	4284	311	4284	311	311	CURVE-Q	100	100	
A19L10	S/B 9 STM TRACE SUBHDS.	LF	10	11	383	523	383	523	523	CURVE-Q	100	100	
A19L11L1	SMALL BORE CS PIPE S/A 9	LF	3036	2604	2108	5355	2113	5355	5369	CURVE-L	100	100	
A19L12L2	LARGE BORE CS PIPE S/A 9	LF	1453	3218	2227	11512	2227	11512	11512	CURVE-L	100	100	
A19L21L1	SMALL BORE AL PIPE S/A 9	LF	11	20	293	668	293	668	668	CURVE-L	100	100	
A19L22L2	LARGE BORE AL PIPE S/A 9	LF	7	31	48	1099	48	1099	1099	CURVE-L	100	100	
A19L80LL	STEAM TRACE TUBING S/A 9	LF	20	11	984	595	984	595	595	CURVE-L	100	100	
A19L81	S/B 9 DEKATRACE	LF	20	11	1428	359	1428	354	359	CURVE-Q	100	100	
A21L11L1	INST CS PIPE 2IN & UNDER	LF	33	55	1636	2203	1636	2203	2203	CURVE-L	100	100	
A21L12L2	LARGE BORE CS SPLD PIPE	LF	26	50	1053	6745	1053	6745	6745	CURVE-L	100	100	
A21L17L2	LARGE BORE CS RACK PIPE	LF	61	56	2982	4766	2982	4766	4766	CURVE-L	100	100	
A21L80LL	STEAM TRACE TUBING SIB21	LF	20	11	444	191	444	191	191	CURVE-L	100	100	
A31E50EE	INSTALL PUMPS & DRIVERS	EA	200	500	200	405	200	405	405	CURVE-E	100	100	
A31E70EE	INSTALL OTHER EQUIPMENT	EA	100	100	0	0	0*	0	0	BLOCK-E	0	0	
A31J01J9	FAB INSTR SUPPORTS	EA	12	200	3	31	3	31	31	CURVE-J	100	100	
A31J11J9	FIELD MOUNTED INSTRMENTS	EA	20	524	5	101	5	101	101	CURVE-J	100	100	
A31J15J9	INSTALL MINOR INSTRMENTS	EA	21	105	4	13	4	13	13	CURVE-J	100	100	

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A31J50JJ	INSTRUMENT SHELTERS	EA	27	355	4	32	4	32	32	CURVE-J	100
A31J70JJ	INSTALL INSTR TUBE&PIPE	LF	200	185	190	89	190	89	89	CURVE-J	100
A31J81JJ	LOOP CHECK & CALIBRATE	EA	44	105	7	4	7	11	4	CURVE-J	100
A31J82JJ	CALIBRATION & TESTING	EA	1	6	7	4	7	10	4	CURVE-J	100
A31L80LL	STEAM TRACE TUBING	LF	20	11	0	0	0*	0	0	BLOCK-L	0
A31M30MM	PIPEWAY STEEL	TONS	1	38	5	209	5	209	209	CURVE-M	100
A31P21P6	PLT 31 ELECT (COMPOSITE)	LF	9	5	1706	793	1706	793	793	CURVE-P	100
A31Q40QQ	PLACE CONCRTE (COMPOSITE)	CY	57	400	12	438	12	438	438	CURVE-Q	100
A31S11S5	EXCAVATION & DISPOSAL	CY	60	230	60	243	60	243	243	CURVE-S	100
A31S12S5	BACKFILL & COMPACTION	CY	103	370	50	34	50	34	34	CURVE-S	100
A31Y10	SCAFFOLDING	BMHRS	746	746	0	0	0*	0	0	TARGET	0
B09E10EE	ERECT COLUMNS & VESSELS	EA	500	387	600	733	600	733	733	CURVE-E	100
B09E30EE	INSTALL HEAT EXCHANGERS	EA	600	272	900	213	900	213	213	CURVE-E	100
B09E50EE	INSTALL PUMPS & DRIVERS	EA	400	290	300	10	300	10	10	CURVE-E	100
B09E60EE	INSTALL COMPRESSORS	EA	100	500	100	252	100	252	252	CURVE-E	100
B09E70EE	INSTALL OTHER EQUIPMENT	EA	300	120	300	0	300	160	190	BLOCK-E	100
B09J11J9	FIELD MOUNTED INSTRUMNTS	EA	0	0	0	41	0*	41	41	TO-DATE	0
B09J15J9	INSTALL MINOR INSTRUMNTS	EA	0	0	0	5	0*	5	5	TO-DATE	0
B09J31JJ	LOCAL CONTROL PANELS	UNITS	0	0	0	0	0*	0	0	BLOCK-J	0
B09J50JJ	INSTRUMENT SHELTERS	EA	0	0	0	23	0*	23	23	TO-DATE	0
B09J70JJ	INSTALL INST TUBE & PIPE	LF	0	0	0	0	0*	0	0	BLOCK-J	0
B09J81JJ	LOOP CHECK	LOOPS	1	4	25	105	25	105	105	CURVE-J	100
B09J82JJ	TEST & STORE	EA	149	345	22	85	22	85	85	CURVE-J	100
B09L10L1	STEAM TRACE PIPE-SUBHDS	LF	0	0	0	40	0*	40	40	TO-DATE	0
B09L11L1	INST CS SPLD 2IN & UNDER	LF	0	0	0	26	0*	26	26	TO-DATE	0
B09L12L2	INST CS SPLD 3IN TO 6IN	LF	0	0	0	302	0*	302	302	TO-DATE	0
B09L70LL	INSTALL U/GROUND PIPE	LF	9	8	117	168	117	168	168	CURVE-L	100
B09L80LL	STEAM TRACING	LF	0	0	0	44	0*	44	44	TO-DATE	0
B09L98LL	TESTING & INSPECTION	LF	0	0	0	75	0*	75	75	TO-DATE	0
B09M10MM	STEEL STRUCTURES	TONS	13	466	8	210	8	210	210	CURVE-M	100
B09M20MM	LADDERS & PLATFORMS	TONS	13	842	7	1039	7	1039	1039	CURVE-M	100
B09M30MM	PIPEWAY STEEL	TONS	15	574	42	1458	42	1458	1458	CURVE-M	100
B09P12PP	POWER & CONTROL EQUIP	EA	16	755	13	174	13	174	174	CURVE-P	100
B09P14PP	LIGHT FIXTURES & RECEPTL	EA	44	252	26	67	26	67	67	CURVE-P	100
B09P21P6	INSTALL A/G RGS CONDUIT	LF	3814	2259	5250	1840	5250	1840	1840	CURVE-P	100
B09P31P7	PULL WIRE 600V & 1KV	LF	36200	805	17400	328	17400	328	328	CURVE-P	100
B09P33P7	PULL ELECTRNIC & TC WIRE	LF	6250	305	2265	77	2265	77	77	CURVE-P	100
B09P34P7	TERMINATIONS 600V & 1KV	EA	315	201	100	54	100	54	54	CURVE-P	100
B09P36P7	TERMINATIONS ELECTR & TC	EA	320	187	80	118	80	118	118	CURVE-P	100
B09P41P7	GROUNDING	LF	950	302	1000	227	1000	227	227	CURVE-P	100
B09P43PP	ELECTRIC HEAT TRACING	LF	800	2517	50	50	50	50	50	CURVE-P	100
B09P80PP	ELECTRICAL TEST & CHKOUT	UNITS	100	250	100	158	100	158	158	CURVE-P	100
B09Q11QQ	PLACE FOUNDATION CONC	CY	122	317	133	391	133	391	391	CURVE-Q	100
B09Q21QQ	PLACE FOUNDATION REBAR	TONS	5	126	7	715	7	715	715	CURVE-Q	100
B09Q31QQ	PLACE & STRIP FDN FORMS	SF	4700	1965	2690	1024	2690	1024	1024	CURVE-Q	100
B09Q71QQ	PLACE CONCRETE PAVING	SF	4080	660	4080	340	4080	340	340	CURVE-Q	100
B09K90QQ	BUILDING WORK	UNITS	100	240	0	0	0*	0	0	BLOCK-Q	0
B09S11S5	EXCAVATION & DISPOSAL	CY	800	1611	653	1324	653	1324	1324	CURVE-S	100

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UNITS CURRENT BUDGET TO-DATE PROGRESS PROJECT FORECAST TREND PHYS TREND														
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PCT PCT														
ACCT. NO	DESCRIPTION OF ACCOUNT	RC	QUANT	QUANT	MANHOURS	QUANT	MANHOURS	QUANT	MANHOURS	MANHOURS	METHOD	COMP	CCMP	

B23Y10 0	SCAFFOLDING	BMHRS	20928	20928	20928	28735	20928	28735	28735	28735	CURVE-0	100	100	
B24L11L1	INST CS PIPE 2IN & UNDER	LF	10	11	2031	4689	2031	4689	4689	4689	CURVE-L	100	100	
B24L12L2	INST CS SPLD 3IN TO 6IN	LF	10	27	2531	7493	2531	7493	7493	7493	CURVE-L	100	100	
B24Y10	SCAFFOLDING	MHRS	0	0	0	1585	0*	1585	1585	1585	TO-DATE	0	100	
B25L11L1	INST CS PIPE 2IN & UNDER	LF	10	11	1542	2053	1542	2053	2053	2053	CURVE-L	100	100	
B25L12L2	INST CS SPLD 3IN TO 6IN	LF	10	27	1687	5281	1687	5281	5281	5281	CURVE-L	100	100	
B25Y10	SCAFFOLDING	MHRS	0	0	0	1982	0*	1982	1982	1982	TO-DATE	0	100	
B28E10EE	ERECT COLUMNS & VESSELS	EA	1200	1050	700	771	700	771	771	771	CURVE-E	100	100	
B28E30EE	ERECT HEAT EXCHANGERS	EA	500	200	200	34	200	34	34	34	CURVE-E	100	100	
B28E50EE	INSTALL PUMPS & DRIVERS	EA	300	120	0	0	0*	0	0	0	BLOCK-E	0	0	
B28E70EE	INSTALL OTHER EQUIPMENT	EA	200	1200	200	231	200	239	231	231	CURVE-E	100	100	
B28J01J9	FAB INSTR SUPPORTS	EA	14	235	4	18	4	18	18	18	CURVE-J	100	100	
B28J11J9	FIELD MOUNTED INSTRUMNTS	EA	17	516	12	144	12	144	144	144	CURVE-J	100	100	
B28J15J9	INSTALL MINOR INSTRUMNTS	EA	86	729	48	176	48	176	176	176	CURVE-J	100	100	
B28J50JJ	INSTRUMENT SHELTERS	EA	16	377	8	147	8	147	147	147	CURVE-J	100	100	
B28J60JJ	ANALYSER & CONTROL PKGE	EA	2	355	0	0	0*	0	0	0	BLOCK-J	0	0	
B28J70JJ	INSTALL INSTR TUBE&PIPE	LF	752	686	600	214	600	214	214	214	CURVE-J	100	100	
B28J81JJ	LOOP CHECK	EA	22	194	29	92	29	92	92	92	CURVE-J	100	100	
B28J82JJ	CALIBRATION & TESTING	EA	128	737	12	30	12	30	30	30	CURVE-J	100	100	
B28J95JJ	EMERGENCY SD REDUNDANCY	UNITS	100	660	0	0	0*	0	0	0	BLOCK-J	0	0	
B28L10L1	STEAM TRACE PIPE-SUBHDS	LF	2	3	412	639	412	639	639	639	CURVE-L	100	100	
B28L11L1	INST CS PIPE 2IN & UNDER	LF	4483	5058	3083	6557	3083	6557	6557	6557	CURVE-L	100	100	
B28L12L2	INST CS SPLD 3IN TO 6IN	LF	1705	2933	1102	3475	1102	3475	3475	3475	CURVE-L	100	100	
B28L21L1	INST AL PIPE 2IN & UNDER	LF	10	44	0	0	0*	0	0	0	BLOCK-L	0	0	
B28L70LL	INSTALL U/G PIPE	LF	10	22	0	6	0*	6	6	6	TO-DATE	0	100	
B28L80LL	STEAM TRACING	LF	50	27	888	1327	888	1327	1327	1327	CURVE-L	100	100	
B28M10MM	STEEL STRUCTURES	TQNS	32	1725	1	65	1	65	65	65	CURVE-M	100	100	
B28M20MM	PLATFORMS & LADDERS	TQNS	1	75	13	1044	13	1044	1044	1044	CURVE-M	100	100	
B28N40	FIREPROOF STRUCTURAL STL	CF	891	3200	0	0	0*	0	0	0	TARGET	0	0	
B28P12PP	POWER & CONTROL EQUIP	EA	8	294	0	8	0*	8	8	8	TO-DATE	0	100	
B28P14PP	LIGHT FIXTURES & RECEPTL	EA	26	160	39	71	39	71	71	71	CURVE-P	100	100	
B28P21P6	INSTALL A/G RGS CONDUIT	LF	5150	2729	5000	1872	5000	1872	1872	1872	CURVE-P	100	100	
B28P31P7	PULL WIRE 600V & 1KV	LF	15420	397	12000	122	12000	122	122	122	CURVE-P	100	100	
B28P33P7	PULL ELECTRNIC & TC WIRE	LF	3670	222	3065	130	3065	130	130	130	CURVE-P	100	100	
B28P34PP	TERMINATIONS 600V & 1KV	EA	88	139	100	29	100	29	29	29	CURVE-P	100	100	
B28P36PP	TERMINATIONS ELECT & TC	EA	418	229	400	70	400	70	70	70	CURVE-P	100	100	
B28P41PP	GROUNDING	LF	700	225	480	83	480	83	83	83	CURVE-P	100	100	
B28P43PP	ELECT HEAT TRACING	LF	2700	2640	5300	1930	5300	1930	1930	1930	CURVE-P	100	100	
B28Q11QQ	PLACE FOUNDATION CONC	CY	142	335	81	250	81	250	250	250	CURVE-Q	100	100	
B28Q21QQ	PLACE FOUNDATION REBAR	TQNS	5	107	4	435	4	435	435	435	CURVE-Q	100	100	
B28Q31QQ	PLACE & STRIP FDN FORMS	SF	2923	1150	2191	1120	2191	1120	1120	1120	CURVE-Q	100	100	
B28Y10	SCAFFOLDING	MHRS	0	0	0	964	0*	964	964	964	TO-DATE	0	100	
B29E10EE	ERECT COLUMNS & VESSELS	BMHRS	100	35	300	42	300	42	42	42	CURVE-E	100	100	
B29E30EE	ERECT HEAT EXCHANGERS	EA	500	650	100	383	100	383	383	383	CURVE-E	100	100	
B29E50EE	INSTALL PUMPS & DRIVERS	EA	400	800	500	229	500	229	229	229	CURVE-E	100	100	
B29J01J9	FAB INSTRUMENT SUPPORTS	EA	0	0	0	0	0*	0	0	0	BLOCK-9	0	0	
B29J11J9	INSTRUMENTS	EA	0	0	0	8	0*	8	8	8	TO-DATE	0	100	
B29J15J9	INSTRUMENTS	EA	0	0	0	25	0*	25	25	25	TO-DATE	0	100	

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		UNITS	CURRENT	BUDGET	TO-DATE	PROGRESS	PROJECT	FORECAST	TREND	PHYS	TREND		
		OF							FCST	PCT	PCT		
ACCT. NO	DESCRIPTION OF ACCOUNT	RC	QUANT	QUANT	MANHOURS	QUANT	MANHOURS	QUANT	MANHOURS	MANHOURS	METHOD	COMP	CCMP

B29J50JJ	INSTRUMENTS	EA	0	0	0	10	0*	10	10	TO-DATE	0	100	
B29J60JJ	ANALYSER & CONTROL PCKGE	EA	7	155	0	0	0*	0	0	BLOCK-J	0	0	
B29J70JJ	INSTRUMENTS	LF	100	86	379	139	379	139	139	CURVE-J	100	100	
B29J81JJ	LOOP CHECK	EA	14	140	29	348	29	348	348	CURVE-J	100	100	
B29J82JJ	CALIBRATION & TESTING	EA	72	459	18	87	18	87	87	CURVE-J	100	100	
B29J95JJ	EMERGENCY SD REDUNDANCE	UNITS	100	75	0	0	0*	0	0	BLOCK-J	0	0	
B29L10LL	STEAM TRACE PIPE-SUBHDRS	LF	0	0	0	47	0*	47	47	TO-DATE	0	100	
B29L11LL	INST CS PIPE 2IN & UNDER	LF	263	241	83	131	83	131	131	CURVE-L	100	100	
B29L12LL	INST CS SPLD 3IN TO 6INN	LF	561	1112	534	3156	534	3142	3156	CURVE-L	100	100	
B29L70LL	INSTALL U/G PIPE	LF	5	7	180	468	180	468	468	CURVE-L	100	100	
B29L80LL	STEAM TRACING	LF	0	0	0	121	0*	121	121	TO-DATE	0	100	
B29L98LL	TESTING & INSPECTION	LF	0	0	0	65	0*	65	65	TO-DATE	0	100	
B29H10MM	STEEL STRUCTURES	TONS	5	200	1	20	1	20	20	CURVE-M	100	100	
B29N40	FIREPROOF STRUCT STEEL	CF	243	900	0	0	0*	0	0	TARGET	0	0	
B29P12PP	POWER & CONTROL EQUIP	EA	11	480	17	289	17	289	289	CURVE-P	100	100	
B29P14PP	LIGHT FIXTURES & RECEPTL	EA	21	320	38	174	38	174	174	CURVE-P	100	100	
B29P21P6	INSTALL A/G RGS CONDUIT	LF	3685	2285	7500	2895	7500	2895	2895	CURVE-P	100	100	
B29P23P6	INSTALL NON-MET CONDUIT	LF	900	160	0	0	0*	0	0	BLOCK-6	0	0	
B29P25P8	INSTALL CABLE TRAY	LF	820	1360	0	0	0*	0	0	BLOCK-8	0	0	
B29P31P7	PULL WIRE 600V 61KV	LF	9200	1037	12400	505	12400	505	505	CURVE-P	100	100	
B29P33P7	PULL ELECTRNIC & TC WIRE	LF	17100	875	15700	346	15700	346	346	CURVE-P	100	100	
B29P34PP	TERMINATIONS 600V 6KV	EA	189	138	300	141	300	141	141	CURVE-P	100	100	
B29P36PP	TERMINATIONS ELECT & TC	EA	429	272	300	225	300	225	225	CURVE-P	100	100	
B29P41PP	GROUNDING	LF	300	160	400	81	400	81	81	CURVE-P	100	100	
B29P43PP	ELECTRIC HEAT TRACING	LF	1025	1025	0	0	0*	0	0	BLOCK-P	0	0	
B29Q40QQ	PLACE CONCRTE(COMPOSITE)	CY	43	810	29	581	29	581	581	CURVE-Q	100	100	
B29Q71QQ	PLACE CONCRETE PAVING	SF	2534	585	500	25	500	25	25	CURVE-Q	100	100	
B29Q73QQ	PLACE CONCRETE ENVELOPES	CY	18	105	0	0	0*	0	0	BLOCK-Q	0	0	
B29S11S5	EXCAVATION & DISPOSAL	CY	440	690	126	916	126	916	916	CURVE-S	100	100	
B29S12S5	BACKFILL & COMPACTION	CY	437	215	88	261	88	261	261	CURVE-S	100	100	
B29S31S5	SEWERS & DRAINAGE	LF	174	170	179	400	179	400	400	CURVE-S	100	100	
B29S41S5	FINEGRAIDING & LEVELING	SF	2534	225	500	66	500	66	66	CURVE-S	100	100	
B29Y10	SCAFFOLDING	MHRS	0	0	0	98	0*	98	98	TO-DATE	0	100	
B30P11PP	POWER DISTRIBUTION EQUIP	EA	9	2590	8	359	8	359	359	CURVE-P	100	100	
B30P21P6	INSTALL A/G RGS CONDUIT	LF	200	560	245	111	245	111	111	CURVE-P	100	100	
B30P23P6	INSTALL NON-MET CONDUIT	LF	300	320	0	0	0*	0	0	BLOCK-6	0	0	
B30P35PP	TERMINATIONS 5KV & ABOVE	EA	35	312	36	300	36	300	300	CURVE-P	100	100	
B30P50P7	O/H POWER DISTRIBUTION	LF	2386	1279	13400	3248	13400	3248	3248	CURVE-P	100	100	
B30P80PP	ELECT TESTING & CHECKOUT	UNITS	100	160	100	87	100	87	87	CURVE-P	100	100	
B30Q73QQ	PLACE CONCRETE ENVELOPES	CY	9	100	10	2	10	2	2	CURVE-Q	100	100	
B30S11S5	EXCAVATION & DISPOSAL	CY	34	70	10	8	10	8	8	CURVE-S	100	100	
B30S12S5	BACKFILL & COMPACTION	CY	25	30	8	0	8	0	12	BLOCK-S	100	0	
B32E20EE	ERECT STORAGE TANKS	EA	200	100	300	57	300	57	57	CURVE-E	100	100	
B32E50EE	INSTALL PUMPS & DRIVERS	EA	300	1250	300	1696	300	1696	1696	CURVE-E	100	100	
B32E70EE	INSTALL OTHER EQUIPMENT	EA	600	917	800	390	800	390	390	CURVE-E	100	100	
B32J11J9	FIELD MOUNTED INSTRUMNTS	EA	0	0	0	4	0*	4	4	TO-DATE	0	100	
B32J15J9	INSTALL MINOR INSTRUMNTS	EA	0	0	0	44	0*	44	44	TO-DATE	0	100	
B32J31JJ	LOCAL CONTROL PANELS	UNITS	100	35	100	0	100	35	20	BLOCK-J	100	0	

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		UNITS	CURRENT	BUDGET	TO-DATE	PROGRESS	PROJECT	FORECAST	TREND	PHYS	TREND	
		OF							FCST	PCT	PCT	
ACCT. NO	DESCRIPTION OF ACCOUNT	RC QUANT	QUANT	MANHOURS	QUANT	MANHOURS	QUANT	MANHOURS	MANHOURS	METHOD	COMP	CCMP

B43L11L1	SMALL BORE PIPE	LF	1111	1759	2066	1222	2066	1222	1222	CURVE-L	100	100
B43L12L2	LARGE BORE SPOOLED PIPE	LF	327	632	718	2512	718	2512	2512	CURVE-L	100	100
B43L17L2	LARGE BORE RACK PIPE	LF	4441	3733	2306	2486	2306	2486	2486	CURVE-L	100	100
B43Y10	SCAFFOLDING	MHRS	0	0	0	845	0*	846	845	TO-DATE	0	100
B44L11L1	SMALL BORE PIPE	LF	4024	6264	8391	9032	8391	9032	9032	CURVE-L	100	100
B44L12L2	LARGE BORE SPOOLED PIPE	LF	1581	3086	3874	13036	3874	13036	13036	CURVE-L	100	100
B44L17L2	LARGE BORE RACK PIPE	LF	29251	25596	15448	12294	15448	12294	12294	CURVE-L	100	100
B44Y10	SCAFFOLDING	MHRS	0	0	0	4753	0*	4753	4753	TO-DATE	0	100
B45L11L1	SMALL BORE PIPE	LF	440	762	1430	430	1430	430	430	CURVE-L	100	100
B45L12L2	LARGE BORE SPOOLED PIPE	LF	25	59	56	409	56	409	409	CURVE-L	100	100
B45L17L2	LARGE BORE RACK PIPE	LF	5011	8361	2851	5472	2851	5472	5472	CURVE-L	100	100
B45Y10	SCAFFOLDING	MHRS	0	0	0	2368	0*	2368	2368	TO-DATE	0	100
B90L70LL	INSTALL U/G PIPE	LF	75	130	0	0	0*	0	0	BLOCK-L	0	0
B99J11J9	INSTALL XMITTERS	EA	3	102	10	80	10	80	80	CURVE-J	100	100
B99J15J9	INSTALL MINOR INSTRUMENT	EA	9	70	21	45	21	45	45	CURVE-J	100	100
B99J31JJ	LOCAL CONTROL PANELS	UNITS	100	35	0	0	0*	0	0	BLOCK-J	0	0
B99J50JJ	INSTRUMENT SHELTERS	EA	1	28	2	8	2	8	8	CURVE-J	100	100
B99J70JJ	INST AIR TUBE & PIPE	LF	48	44	650	149	650	149	149	CURVE-J	100	100
B99J81JJ	LOOP CHECK	LOOPS	5	49	21	17	21	17	17	CURVE-J	100	100
B99J82JJ	TEST-STORE-CALIBRATE	EA	4	23	8	11	8	11	11	CURVE-J	100	100
B99L10L1	STEAM TRACE PIPE-SUBHDS	LF	33	55	1093	2678	1093	2678	2678	CURVE-L	100	100
B99L11L1	INST CS PIPE 2IN & UNDER	LF	39	66	406	803	406	803	803	CURVE-L	100	100
B99L12L2	INST CS PIPE GTR THAN 2"	LF	239	345	882	2205	882	2205	2205	CURVE-L	100	100
B99L80LL	STEAM TRACING	LF	50	27	8359	3759	8359	3759	3759	CURVE-L	100	100
B99L98LL	TESTING & INSPECTION	LF	99	7	186	6	186	6	6	CURVE-L	100	100
B99S31S5	SEWERS & DRAINS	LF	40	25	90	189	90	189	189	CURVE-S	100	100
B99Y10	SCAFFOLDING	MHRS	0	0	0	104	0*	104	104	TO-DATE	0	100
C50J21JJ	MAIN CONTROL ROOM PANEL	EA	6	626	6	555	6	555	555	CURVE-J	100	100
C50J26JJ	PROCESS CONTROL COMPUTER	UNITS	100	100	70	283	70	283	283	CURVE-J	100	100
C50M40MM	MISCELL STRUCTURAL STEEL	TONS	18	1220	22	1341	22	1341	1341	CURVE-M	100	100
C50P11PP	DISTRBT HGH VLTG PWR EQ	EA	3	360	3	456	3	456	456	CURVE-P	100	100
C50P12PP	POWER & CONTROL EQUIP	UNITS	108	1020	100	462	100	462	462	CURVE-P	100	100
C50P13PP	EMERGENCY & UPS EQUIP	EA	4	2086	4	1557	4	1557	1557	CURVE-P	100	100
C50P14PP	LIGHTING FIXTURES/RECPTL	EA	14	70	10	120	10	120	120	CURVE-P	100	100
C50P15P0	OTHER ELECTRICAL EQUIP	EA	131	4755	204	3912	204	3912	3912	CURVE-P	100	100
C50P16PP	PROGRAMABEL CONTR MASTER	EA	3	1580	4	91	4	91	91	CURVE-P	100	100
C50P20P6	INST A/G RGS COND MAINS	LF	1400	1090	2561	3296	2561	3296	3296	CURVE-P	100	100
C50P21P6	INST A/G RGS COND BRANCH	LF	3550	1917	3965	2611	3965	2611	2611	CURVE-P	100	100
C50P22P6	INST U/G CONDUIT	LF	3440	1115	5390	1528	5390	1528	1528	CURVE-P	100	100
C50P25P8	INST CABLE TRAY	LF	11220	16452	10920	15638	10920	15638	15638	CURVE-P	100	100
C50P30P7	PULL DATA HIGHWAY CABLE	LF	50620	1619	108950	6465	108950	6465	6465	CURVE-P	100	100
C50P31P7	PULL WIRE 600V & 1KV	LF	7260	218	14200	759	14200	759	759	CURVE-P	100	100
C50P32P7	PULL CABLE 5KV & ABOVE	LF	12200	1223	10000	1621	10000	1621	1621	CURVE-P	100	100
C50P33P7	PULL ELECTRNIC & TC WIRE	LF	74800	3343	11101	1144	11101	1144	1144	CURVE-P	100	100
C50P34PP	TERMINATIONS 600 & 1KV	EA	600	386	652	378	652	378	378	CURVE-P	100	100
C50P36PP	TERMINATIONS ELECT & TC	EA	5461	3612	5167	2315	5167	2315	2315	CURVE-P	100	100
C50P41PP	GROUNDING	LF	58380	9170	17306	3019	17306	3019	3019	CURVE-P	100	100
C50P42PP	GROUND WELL INSTALLATION	EA	100	356	101	535	101	535	535	CURVE-P	100	100

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		UNITS		CURRENT	BUDGET	TO-DATE	PROGRESS	PROJECT	FORECAST	TREND	PHYS		
		OF								FCST	PCT	TREND	PCT
ACCT. NO	DESCRIPTION OF ACCOUNT	RC	QUANT	QUANT	MANHOURS	QUANT	MANHOURS	QUANT	MANHOURS	MANHOURS	METHOD	COMP	COMP

C52P36PP	TERMINATIONS ELECT & TC	EA	2131	1239	1964	746	1964	746	746	746	CURVE-P	100	100
C52P37P7	PULL ELECTRONIC MAINS	LF	100	13	2239	92	2239	92	92	92	CURVE-P	100	100
C52P41PP	GROUNDING	LF	2200	864	860	177	860	177	177	177	CURVE-P	100	100
C52P42PP	GROUNDWELL INSTALLATION	EA	100	237	100	180	100	180	180	180	CURVE-P	100	100
C52P43PP	ELECT HEAT TRACING	LF	3125	2000	0	15	0*	15	15	15	TO-DATE	0	100
C53J01JJ	INSTRUMENT SUPPORTS	EA	24	288	2	8	2	8	8	8	CURVE-J	100	100
C53J10JJ	PRE ASMB TRANSMETTRANSUC	EA	129	419	249	299	249	299	299	299	CURVE-J	100	100
C53J11J9	FIELD MOUNTED INSTRUMNTS	EA	48	2081	1	250	1	250	250	250	CURVE-J	100	100
C53J15J9	INSTALL MINOR INSTRUMNTS	EA	37	83	0	0	0*	0	0	0	BLOCK-9	0	0
C53J17J9	INSTALL P/I TRANSDUCERS	EA	18	450	0	0	0*	0	0	0	BLOCK-9	0	0
C53J19J9	INSTALL I/P TRANSDUCERS	EA	70	490	0	0	0*	0	0	0	BLOCK-9	0	0
C53J22JJ	CONSOLE SATELLITE RACKS	UNITS	100	148	200	127	200	127	127	127	CURVE-J	100	100
C53J50JJ	INSTRUMENT SHELTERS	EA	50	1000	0	0	0*	0	0	0	BLOCK-J	0	0
C53J70JJ	INST INSTR TUBE & PIPE	LF	1598	690	16	0	16	0	4	4	BLOCK-J	100	0
C53J74L1	INST AIR SUBHEADER	LF	2	1	1505	414	1505	414	414	414	CURVE-L	100	100
C53J82JJ	TEST&STORE&CALIB INST	EA	356	1552	391	652	391	652	652	652	CURVE-J	100	100
C53L11L1	INST CS PIPE 2IN & UNDER	LF	435	525	0	0	0*	0	0	0	BLOCK-1	0	0
C53P12PP	POWER & CONTROL EQUIP	EA	23	480	41	915	41	915	915	915	CURVE-P	100	100
C53P16PP	PROGRAM CONTR SATELLITE	EA	20	262	0	122	0*	122	122	122	TO-DATE	0	100
C53P20P6	INST A/G RGS COND MAINS	LF	3295	2582	6112	5165	6112	5165	5165	5165	CURVE-P	100	100
C53P21P6	INST A/G RGS COND BRANCH	LF	11850	6189	12284	7555	12284	7555	7555	7555	CURVE-P	100	100
C53P25P8	INSTALL CABLE TRAY	LF	5	8	440	879	440	879	879	879	CURVE-P	100	100
C53P31P7	PULL WIRE 600V & 1KV	LF	25	1	12180	616	12180	616	616	616	CURVE-P	100	100
C53P33P7	PULL ELECT & TC WIRE	LF	44975	1855	42090	1147	42090	1147	1147	1147	CURVE-P	100	100
C53P34PP	TERMINATIONS 600V & 1KV	EA	20	11	274	46	274	46	46	46	CURVE-P	100	100
C53P36PP	TERMINATIONS ELECT & TC	EA	2243	1248	4047	2188	4047	2188	2188	2188	CURVE-P	100	100
C53P37P7	PULL ELECTRONIC MAINS	LF	4000	544	7452	539	7452	539	539	539	CURVE-P	100	100
C53P41PP	GROUNDING	LF	2200	864	540	220	540	220	220	220	CURVE-P	100	100
C53P42PP	GROUND WELL INSTALLATION	EA	100	237	117	367	117	367	367	367	CURVE-P	100	100
C53P90PP	ELECTRONIC DISCONNECTS	EA	1	4	0	0	0*	0	0	0	BLOCK-P	0	0
C54J01JJ	INSTRUMENT SUPPORTS	EA	24	288	6	221	6	221	221	221	CURVE-J	100	100
C54J10JJ	PRE ASMB TRANSMETTRANSUC	EA	304	1209	210	224	210	224	224	224	CURVE-J	100	100
C54J11J9	FIELD MOUNTED INSTRUMNTS	EA	113	4508	0	492	0*	492	492	492	TO-DATE	0	100
C54J15J9	INSTALL MINOR INSTRUMNTS	EA	106	214	6	18	6	18	18	18	CURVE-J	100	100
C54J17J9	INSTALL P/I TRANSDUCERS	EA	24	600	0	0	0*	0	0	0	BLOCK-9	0	0
C54J19J9	INSTALL I/P TRANSDUCERS	EA	74	479	5	109	5	109	109	109	CURVE-J	100	100
C54J22JJ	CONSOLE SATELLITE RACKS	UNITS	100	283	110	163	110	163	163	163	CURVE-J	100	100
C54J50JJ	INSTRUMENT SHELTERS	EA	102	2040	0	8	0*	8	8	8	TO-DATE	0	100
C54J70JJ	INST INSTR TUBE & PIPE	LF	4200	1747	0	137	0*	137	137	137	TO-DATE	0	100
C54J82JJ	TEST&STORE&CALIB INST	EA	313	1318	352	473	352	473	473	473	CURVE-J	100	100
C54L11L1	INST CS PIPE 2IN & UNDER	LF	1370	1650	0	0	0*	0	0	0	BLOCK-1	0	0
C54P12PP	POWER & CONTROL EQUIP	EA	22	810	49	1099	49	1099	1099	1099	CURVE-P	100	100
C54P14		EA	0	0	0	0	0	0	0	0	BUDGET	0	0
C54P16PP	PROGRAM CONTR SATELLITE	EA	20	262	2	185	2	185	185	185	CURVE-P	100	100
C54P20P6	INST A/G RGS COND MAINS	LF	5230	4382	14774	6161	14774	6161	6161	6161	CURVE-P	100	100
C54P21P6	INST A/G RGS COND BRANCH	LF	18318	9399	16641	9718	16641	9718	9718	9718	CURVE-P	100	100
C54P25P8	INSTALL CABLE TRAY	LF	100	160	97	335	97	335	335	335	CURVE-P	100	100
C54P31P7	PULL WIRE 600V & 1KV	LF	1175	47	8804	200	8804	200	200	200	CURVE-P	100	100

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	OF							FCST	PCT	PCT		
ACCT. NO	DESCRIPTION OF ACCOUNT	RC QUANT	QUANT MANHOURS	QUANT MANHOURS	QUANT MANHOURS	MANHOURS METHOD	CCMP	CCMP				

C54P33P7	PULL ELECT & TC WIRE	LF	100932	3263	38462	1347	38462	1347	1347	CURVE-P	100	100
C54P34PP	TERMINATE WIRE 600V/1KV	EA	15	8	155	113	155	113	113	CURVE-P	100	100
C54P36PP	TERMINATIONS ELECT & TC	EA	3147	1827	898	1940	898	1940	1940	CURVE-P	100	100
C54P37P7	PULL ELECTRONIC MAINS	LF	7318	936	12388	1030	12388	1030	1030	CURVE-P	100	100
C54P41PP	GROUNDING	LF	2000	800	1000	365	1000	365	365	CURVE-P	100	100
C54P42PP	GROUND WELL INSTALLATION	EA	100	237	100	350	100	350	350	CURVE-P	100	100
C54P90PP	ELECTRONIC DISCONNECTS	EA	66	218	0	14	0*	14	14	TO-DATE	0	100
C54R01 0	COKER CR STRUCTURAL MODS	UNITS	0	0	0	0	0*	0	0	BLOCK-0	0	0
C55J01JJ	INSTRUMENT SUPPORTS	EA	29	348	3	58	3	58	58	CURVE-J	100	100
C55J10JJ	PRE ASMB TRANSM&TRANS DUC	EA	157	617	172	140	172	140	140	CURVE-J	100	100
C55J11J9	FIELD MOUNTED INSTRUMNTS	EA	90	3656	3	264	3	264	264	CURVE-J	100	100
C55J15J9	INSTALL MINOR INSTRUMNTS	EA	64	149	8	40	8	40	40	CURVE-J	100	100
C55J17J9	INSTALL P/I TRANSDUCERS	EA	6	150	0	0	0*	0	0	BLOCK-9	0	0
C55J19J9	INSTALL I/P TRANSDUCERS	EA	64	448	0	0	0*	0	0	BLOCK-9	0	0
C55J22JJ	CONSOLE SATELLITE RACKS	UNITS	300	444	300	225	300	225	225	CURVE-J	100	100
C55J50JJ	INSTRUMENT SHELTERS	EA	82	1640	3	127	3	127	127	CURVE-J	100	100
C55J70JJ	INST INSTR TUBE & PIPE	LF	1975	859	0	0	0*	0	0	BLOCK-J	0	0
C55J82JJ	TEST&STORE&CALIB INST	EA	208	852	201	353	201	353	353	CURVE-J	100	100
C55L11L1	INST CS PIPE 2IN & UNDER	LF	700	840	0	0	0*	0	0	BLOCK-I	0	0
C55P12PP	POWER & CONTROL EQUIP	EA	20	320	60	821	60	821	821	CURVE-P	100	100
C55P16PP	PROGRAM CONTR SATELLITE	EA	38	522	36	141	36	141	141	CURVE-P	100	100
C55P20P6	INSTALL A/G RGS COT MAIN	LF	1000	780	1789	739	1789	739	739	CURVE-P	100	100
C55P21P6	INST A/G RGS COND BRANCH	LF	4350	2236	5301	2251	5301	2251	2251	CURVE-P	100	100
C55P25P8	INSTALL CABLE TRAY	LF	400	640	542	537	542	537	537	CURVE-P	100	100
C55P31P7	PULL WIRE 600V & 1KV	LF	580	31	39632	611	39632	611	611	CURVE-P	100	100
C55P33P7	PULL ELECT & TC WIRE	LF	83000	2512	2678	88	2678	88	88	CURVE-P	100	100
C55P34PP	TERMINATIONS 600V & 1KV	EA	5	3	751	248	751	248	248	CURVE-P	100	100
C55P36PP	TERMINATIONS ELECT & TC	EA	6099	3416	3191	1110	3191	1110	1110	CURVE-P	100	100
C55P37P7	PULL ELECTRONIC MAINS	LF	2000	256	5750	206	5750	206	206	CURVE-P	100	100
C55P41PP	GROUNDING	LF	3000	1120	2000	194	2000	194	194	CURVE-P	100	100
C55P42PP	GROUND WELL INSTALLATION	EA	100	237	101	201	101	201	201	CURVE-P	100	100
C55P90PP	ELECTRONIC DISCONNECTS	EA	154	397	0	7	0*	7	7	TO-DATE	0	100
C56J01JJ	INSTRUMENT SUPPORTS	EA	24	288	0	0	0*	0	0	BLOCK-J	0	0
C56J10JJ	PRE ASMB TRANSM&TRANS DUC	EA	257	1062</								

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		OF							FCST	PCT	PCT						
ACCT. NO	DESCRIPTION OF ACCOUNT	RC	QUANT	QUANT	MANHOURS	QUANT	MANHOURS	QUANT	MANHOURS	MANHOURS	METHOD	COMP	COMP				

S29J70JJ	ALLEN-INST AIR TUBE &PIP	LF	710	609	776	318	776	700	318	CURVE-J	100	100					
S29L10L1	ALLENSTEAM TRACE PIPE	LF	52	69	211	217	211	434	217	CURVE-L	100	100					
S29L11L1	ALLEN2" & UNDER RK & SP	LF	2541	2700	1486	1643	1486	2592	1643	CURVE-L	100	100					
S29L12L2	ALLEN3" & OVER SPUOLS	LF	874	2210	1266	4137	1266	3768	4137	CURVE-L	100	100					
S29L17L2	ALLEN-3" & OVER RACK PIPE	LF	401	670	224	0	224	334	621	BLOCK-2	100	0					
S29L70LL	ALLENUNDERGROUND PIPE	LF	5	6	34	77	34	74	77	CURVE-L	100	100					
S29L80LL	ALLENSTEAM TRACING	LF	50	27	478	416	478	686	416	CURVE-L	100	100					
S29L98LL	ALLENHYDROTESTING	LF	4570	433	4481	664	4481	435	664	CURVE-L	100	100					
S29XXX	ALLEN-DISTRIBUTABLES	BMHRS	0	0	0	759	0*	230	759	TO-DATE	0	100					
S31L11L1	INST SC PIPE 2IN & UNDER	LF	3822	4914	556	696	556	693	696	CURVE-L	100	100					
S31L12L2	INST CS SPLD 3IN TO 6IN	LF	1125	2047	586	2549	586	2549	2549	CURVE-L	100	100					
S31L98LL	TESTING & INSPECTION	LF	4915	367	842	24	1142	40	34	CURVE-L	74	71					
S32J11J9	HOKE-INSTALL TRANSMITTER	EA	4	134	3	122	3	101	122	CURVE-J	100	100					
S32J15J9	HOKE-INSTALL MINOR INST	EA	29	251	50	55	50	493	55	CURVE-J	100	100					
S32J31J9	HOKE-LOCAL CONTROL PANEL	UNITS	0	0	0	0	0*	0	0	BLOCK-J	0	0					
S32J50JJ	HOKE-MOUNT INST SHELTER	EA	2	42	2	33	2	42	33	CURVE-J	100	100					
S32J60JJ	HOKE-ANALYZERS	EA	3	280	3	98	3	280	98	CURVE-J	100	100					
S32J70JJ	HOKE-INST AIR TUBE &PIPE	LF	110	98	560	459	560	445	459	CURVE-J	100	100					
S32L10L1	HOKE--STEAM TRACE PIPE	LF	32	41	347	26	347	439	26	CURVE-L	100	100					
S32L11L1	HOKE--2" & UNDER RK & SP	LF	703	676	1395	3490	1395	2045	3490	CURVE-L	100	100					
S32L12L2	HOKE--3" & OVER SPUOLS	LF	1957	5211	1120	5241	1120	5521	5241	CURVE-L	100	100					
S32L70LL	HOKE--UNDERGROUND PIPE	LF	5	9	109	89	109	216	89	CURVE-L	100	100					
S32L80LL	HOKE--STEAM TRACING	LF	50	27	350	417	350	459	417	CURVE-L	100	100					
S32L98LL	HOKE--HYDROTESTING	LF	2454	179	1796	33	1796	249	33	CURVE-L	100	100					
S32XXX	HOKE-DISTRIBUTABLES	BMHRS	0	0	0	205	0*	200	205	TO-DATE	0	100					
S45L11L1	INST CS PIPE 2IN & UNDER	LF	185	320	600	508	600	1213	508	CURVE-L	100	100					
S45L12L2	LARGE BORE CS SPLD PIPE	LF	116	266	269	2086	269	447	2086	CURVE-L	100	100					
S45L17L2	LARGE BORE CS RACK PIPE	LF	1419	2367	793	2330	793	1179	2330	CURVE-L	100	100					
S99L11L1	HOKE-2" & UNDER RK & SP	LF	4	5	46	147	46	101	147	CURVE-L	100	100					
S99L12L2	HOKE-3" & OVER SPUOLS	LF	6	11	199	202	199	507	202	CURVE-L	100	100					
X70110 0	TEMPORARY BUILDINGS	BMHRS	4663	4663	4663	7103	4663	6941	7103	CURVE-0	100	100					
X70120 0	TEMP WORK AREA & BAYS	BMHRS	3951	3951	3951	3493	3951	3493	3493	CURVE-0	100	100					
X70130 0	TEMP ROADS PRKG & FENCES	BMHRS	3820	3820	3820	3208	3820	2850	3208	CURVE-0	100	100					
X70160 0	TEMP WATER AIR & SEWAGE	BMHRS	2530	2530	2530	761	2530	761	761	CURVE-0	100	100					
X70170 0	MINOR TEMP CONSTRUCTION	BMHRS	728	728	728	710	728	646	710	CURVE-0	100	100					
X70190 0	WEATHER PROTECTION	BMHRS	1388	1388	1388	1490	1388	1385	1490	CURVE-0	100	100					
X70210 0	GENERAL & FINAL CLEAN-UP	BMHRS	2768	2768	2768	3413	2768	1339	3413	CURVE-0	100	100					
X70224	RUBBER SAFETY BLANKETS	BMHRS	8644	8644	8644	6308	8644	5400	6308	CURVE-0	100	100					
X70231 0	FIRST DROP MAT HANDLING	BMHRS	13926	13926	13926	13926	13926	14200	13926	CURVE-0	100	100					
X70232 0	WAREHOUSING	BMHRS	53806	53806	53470	72262	53806	64000	72716	CURVE-0	99	99					
X70250 0	UNALLOCATED LABOR	BMHRS	6073	6073	6073	8461	6073	6488	8461	CURVE-0	100	100					
X70260 0	ON & OFF EXPENSES	BMHRS	8000	8000	8000	9601	8000	6000	9601	CURVE-0	100	100					
X70270 0	SURVEYING	BMHRS	15000	15000	15000	13384	15000	13900	13384	CURVE-0	100	100					
X70510 0	WELDER TESTING	BMHRS	8272	8272	8272	7438	8272	5986	7438	CURVE-0	100	100					
X70520	WELDER UPGRADING	BMHRS	1602	1602	1602	1464	1602	1120	1464	CURVE-0	100	100					
X70530 0	SHOW-UP TIME	BMHRS	15039	15039	15039	17462	15039	20000	17462	CURVE-0	100	100					
X70540	BOILRMKR HOLIDAY HOURS	MHRS	0	0	0	224	0*	0	224	TO-DATE	0	100					
X71110	TEMPORARY BUILDINGS	BMHRS	2318	2318	2318	2682	2318	2575	2682	CURVE-0	100	100					

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		OF							FCST	PCT	PCT		
ACCT. NO	DESCRIPTION OF ACCOUNT	RC	QUANT	QUANT	MANHOURS	QUANT	MANHOURS	QUANT	MANHOURS	MANHOURS	METHOD	COMP	CCMP

816034	B GKN-B;REPR.PNLS.MK1A29R		ZZZZZ	0	0	0	92	0*	0	92	TO-DATE	0	100
816035	B GKN B; F1,2 RWK RAD TUBS		ZZZZZ	0	0	0	20	0*	0	20	TO-DATE	0	100
816036	B GKN-B;PROVIDE ACCESS DRS		ZZZZZ	0	0	0	0	0*	0	0	BUDGET	0	0
816037	B GKN-B;FLAP DAMPERS		ZZZZZ	0	0	0	0	0*	0	0	BUDGET	0	0
816038	B GKN-B;REPR.COLD AIR DUCT		ZZZZZ	0	0	0	0	0*	0	0	BUDGET	0	0
816039	B GKN-B; F3,FLANGE MK5A13		ZZZZZ	0	0	0	125	0*	0	125	TO-DATE	0	100
816040	B GKN-B;SPRING HANGER RODS		ZZZZZ	0	0	0	0	0*	0	0	BUDGET	0	0
816041	B GKN-B;RAD.WALL RESTRAINT		ZZZZZ	0	0	0	0	0*	0	0	BUDGET	0	0
816042	B GKN-B;COMPENS.TO DAMPER		ZZZZZ	0	0	0	0	0*	0	0	BUDGET	0	0
816043	B GKN-B F5 GUILLOTIN DMPIR		ZZZZZ	0	0	0	116	0*	0	116	TO-DATE	0	100
816045	B GKN-B;REWK ASST 16F3 DSG		ZZZZZ	0	0	0	2637	0	0	2637	TO-DATE	0	100
816046	B F12,4 RADIANT ROOF PANEL		ZZZZZ	0	0	0	48	0*	0	48	TO-DATE	0	100
816047	B GKN-B;F3-STRWYS/PLTFORMS		ZZZZZ	0	0	0	0	0*	0	0	BUDGET	0	0
816048	B GKN-B;PLTFRM.AT ELEV.101		ZZZZZ	0	0	0	0	0*	0	0	BUDGET	0	0
816049	B GKN-B;PLTFMS.11,12,13&14		ZZZZZ	0	0	0	0	0*	0	0	BUDGET	0	0
816050	B INGERSOL-RAND;COMPRESSOR		ZZZZZ	0	0	0	127	0*	0	127	TO-DATE	0	100
816051	B LECTRODRYER		ZZZZZ	0	0	0	49	0	0	49	TO-DATE	0	100
816053	B GKN-B;VC HTR-REV.CO PIPE		ZZZZZ	0	0	0	0	0*	0	0	BUDGET	0	0
816055	B GKN-B;REFAB.16HS-1208		ZZZZZ	0	0	0	0	0*	0	0	BUDGET	0	0
816056	B ECKO;CUT/REWELD 11/4CHRM		ZZZZZ	0	0	0	204	0*	0	204	TO-DATE	0	100
816057B	B REPLC DMGD&MISNG REF16-3		ZZZZZ	0	0	0	675	0*	0	675	TO-DATE	0	100
816058	B GKN-B;F1-REVERSE FLANGES		ZZZZZ	0	0	0	207	0*	0	207	TO-DATE	0	100
816062	B RELCT & REWLD BEAMS-F3		ZZZZZ	0	0	0	8	0*	0	8	TO-DATE	0	100
816064	B INGERSOLL RAND		ZZZZZ	0	0	0	242	0	0	242	TO-DATE	0	100
816065	B ECKO;RWRK.SPL.16P-208-1D		ZZZZZ	0	0	0	122	0	0	122	TO-DATE	0	100
816066	B ECKO;RWRK.SPL.16P-203-1B		ZZZZZ	0	0	0	37	0	0	37	TO-DATE	0	100
816067	B ECKO;RWRK.SPL.16P-204-1B		ZZZZZ	0	0	0	12	0	0	12	TO-DATE	0	100
816068	B ECKO;RWRK.SPL.16P-205-1D		ZZZZZ	0	0	0	64	0	0	64	TO-DATE	0	100
816071	B GKN-B;WIND BRACING-VCHTR		ZZZZZ	0	0	0	26	0	0	26	TO-DATE	0	100
816072	B JOHNSON SCRN16C-25 MODIF		ZZZZZ	0	0	0	56	0	0	56	TO-DATE	0	100
816075	B GKN-B INSTL RING SF-16F4		ZZZZZ	0	0	0	23	0	0	23	TO-DATE	0	100
816076	B GKN-B;CONV.RESTRAINTS F3		ZZZZZ	0	0	0	55	0	0	55	TO-DATE	0	100
816077	B ELLIOTT MTRL ONLY THRMW		ZZZZZ	0	0	0	0	0	0	0	BUDGET	0	0
816080	B SAUER IND. 16C-25 MODIF		ZZZZZ	0	0	0	118	0	0	118	TO-DATE	0	100
816089	B TIE-DOWN STORAGE SHED		ZZZZZ	0	0	0	17	0	0	17	TO-DATE	0	100
816090	B I.R.-UNLOADER VALVES		ZZZZZ	0	0	0	46	0	0	46	TO-DATE	0	100
816091	B ECKO;REFAB.SPL.16P-1401A		ZZZZZ	0	0	0	74	0	0	74	TO-DATE	0	100
816093	B GKN-B;RELOC.DAMPER CNTRL		ZZZZZ	0	0	0	615	0	0	615	TO-DATE	0	100
816094	B GKN-B;HOR.BOX REV.16F-3		ZZZZZ	0	0	0	140	0	0	140	TO-DATE	0	100
816095	B REVISING BRACKETS		ZZZZZ	0	0	0	48	0	0	48	TO-DATE	0	100
816108	B BRAND INS. CLEAN-UP		ZZZZZ	0	0	0	48	0	0	48	TO-DATE	0	100
818035	B GKN-B;RWRK.RAD.SECT.TUBE		ZZZZZ	0	0	0	0	0*	0	0	BUDGET	0	0
821004	B STR STEEL REPAIRS		ZZZZZ	0	0	0	173	0*	0	173	TO-DATE	0	100
823010	B SMITHCO ENG. RECOMB FINS		ZZZZZ	0	0	0	140	0	0	140	TO-DATE	0	100
823052B	B UNIV. LOCKPORT TGTN BOLT		ZZZZZ	0	0	0	82	0*	0	82	TO-DATE	0	100
823055	B REFAB 16-HS-1208		ZZZZZ	0	0	0	0	0	0	0	BUDGET	0	0
823070	B INDIRECT & WORK TO A&M		ZZZZZ	0	0	0	13	0	0	13	TO-DATE	0	100
823085	B STEEL MESH ON VSL SKIRTS		ZZZZZ	0	0	0	38	0	0	38	TO-DATE	0	100

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		UNITS		CURRENT	BUDGET	TO-DATE	PROGRESS	PROJECT	FORECAST	TREND	PHYS		TREND				
		OF								FCST	PCT	PCT					
ACCT. NO	DESCRIPTION OF ACCOUNT	RC	QUANT	QUANT	MANHOURS	QUANT	MANHOURS	QUANT	MANHOURS	MANHOURS	METHOD	CCMP	CCMP				

826031	B NO DESCRIPTION		ZZZZZ	0	0	0	648	0*	0	648	TO-DATE	0	100				
826036	B GKN-B PROVIDE ACCESS DRS		ZZZZZ	0	0	0	6	0	0	6	TO-DATE	0	100				
828022	B ELECTRODRYER 280-1 SKID		ZZZZZ	0	0	0	132	0*	0	132	TO-DATE	0	100				
830017	B WESTINGHOUSE VENDOR REP		ZZZZZ	0	0	0	113	0*	0	113	TO-DATE	0	100				
832009	B BCKCHRG FUR TOWR SBCNTRT		ZZZZZ	0	0	0	70	0*	0	70	TO-DATE	0	100				
870008	B REPAIRS ON 4100 CRANE		ZZZZZ	0	0	0	0	0*	0	0	BUDGET	0	0				
900044	C 23E-14 MONORAIL & TROLEY		ZZZZZ	0	0	0	0	0	0	0	BUDGET	0	0				
900097	C FUEL GAS BYPASS		ZZZZZ	0	0	0	0	0	0	0	BUDGET	0	0				
900217	C ROAD REPAIR			0	0	0	0	3000	3000	0	BUDGET	0	0				
900218	C DRAIN VLV IN O'BRIEN BOX			0	0	0	0	0	0	0	BUDGET	0	0				
900219	C INVERT XMITTER FLANGES			0	0	0	0	0	0	0	BUDGET	0	0				
900220	C INSTALL BLOWDOWN VALVES			0	0	0	0	0	0	0	BUDGET	0	0				
900221	C ASSISTANCE TO HONEYWELL			0	0	0	0	0	0	0	BUDGET	0	0				
900222	C INST BOX PWR FEED BY PLT			0	0	0	0	0	0	0	BUDGET	0	0				
900223	C COKER QUENCH PANEL		ZZZZZ	0	0	0	0	0	0	0	BUDGET	0	0				
900226	C RELOCATE LIGHT FIXTS-CCR			0	0	0	0	0	0	0	BUDGET	0	0				
900228	C RELOCATE TEMP A/C UNIT		BMHRS	0	0	0	0	0	0	0	BUDGET	0	0				
900229C	C CIPS RAILROAD CROSSING		ZZZZZ	0	0	0	0	0	0	0	BUDGET	0	0				
900234	C RECEPTACLES IN CONTR RM		ZZZZZ	0	0	0	0	0	0	0	BUDGET	0	0				
900235	C DISTRIB FIREPROOF		ZZZZZ	0	0	0	25	0	0	25	TO-DATE	0	100				
900236	C INSTALL NOZZLES ON TANKS		ZZZZZ	0	0	0	0	0	0	0	BUDGET	0	0				
900238	C DRAINS ON O'BRIEN BOXES		ZZZZZ	0	0	0	28	0	0	28	TO-DATE	0	100				
900244	C BECHTEL-TIE-INS		ZZZZZ	0	0	0	0	0	0	0	BUDGET	0	0				
900245	C SMALL BURE ADDS 23-28		ZZZZZ	0	0	0	0	0	0	0	BUDGET	0	0				
900248	C DELETION OF FUEL OIL PIP		ZZZZZ	0	0	0	0	0	0	0	BUDGET	0	0				
900249C	C REV. TO FUEL GAS LINES		ZZZZZ	0	0	0	0	0	0	0	BUDGET	0	0				
900252C	C ADD SPLASH BAFFLES		ZZZZZ	0	0	0	0	0	0	0	BUDGET	0	0				
900257	C PLANT 7 PSV BYPASSES		ZZZZZ	0	0	0	0	0	0	0	BUDGET	0	0				
900265	C SEAL WELD INSTRUMENTS		ZZZZZ	0	0	0	120	0	0	120	TO-DATE	0	100				
900268	C NAPTHA STRUCTURE		ZZZZZ	0	0	0	82	0	0	82	TO-DATE	0	100				
900300	C COKER CNTRL RM MODIFICTN			0	0	0	0	0	0	0	BUDGET	0	0				
900306C	C CORRECT HEAT PROBLEMS		ZZZZZ	0	0	0	0	0	0	0	BUDGET	0	0				
900313	C NEW T/C TAGS		ZZZZZ	0	0	0	0	0	0	0	BUDGET	0	0				
900316C	C ARTF MOD CAT CRACKER		ZZZZZ	0	0	0	263	0	0	263	TO-DATE	0	100				
900318	C HONEYWELL GROUNDING		ZZZZZ	0	0	0	0	0	0	0	BUDGET	0	0				
900323	B MOD. SECURITY SYSTEM		ZZZZZ	0	0	0	0	0	0	0	BUDGET	0	0				
900535	C LOST TIME		BMHRS	0	0	0	0	2000	2000	0	BUDGET	0	0				
901244	C ALLEN-PLANT 29 TIE-INS		ZZZZZ	0	0	0	0	0	0	0	BUDGET	0	0				

END OF MASTER FILE LIST
950 RECORDS ON FILE

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F O C U S
FORECAST LIMITS AND CURVES

DATE 5/24/82
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X LIMIT 20 PCT

Y LIMIT 15 PCT

CURVE CODE

-0-

-10-

-20-

-30-

-40-

-50-

-60-

-70-

-80-

-90-

-100-

E #

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J #

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1.23

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1.05

1.02

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M #

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1.23

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1.32

1.30

1.21

1.14

1.08

1.04

1.01

1.00

END OF REPORT C38022-40

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MQC
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RUN DATE 5/24/82
PAGE 1

SUMMARY OF TOTAL PROJECT

CALCULATIONS BASED ON BUDGET

PROJECT FCST DATE 11/20/81, FCST # 004

CUT-OFF DATE 5/21/82

LINE	AREA	CURRENT BUDGET MANHOURS	PROJECT FORECAST MANHOURS	TREND FORECAST MANHOURS	THIS WEEK CALC MANHOURS	ACTUAL MANHOURS	TO-DATE CALC MANHOURS	ACTUAL MANHOURS	PERFORMANCE THIS WEEK	TO DATE	FACTOR FCST	PERCENT TRND	COMPLETE TRND	PHYS
*A	HYDRITRETR/PLATFRMR	445993	860945	866557	1193	2014	544542	863203	1.69	1.59	1.58	100	100	
*B	OFF-PLOTS	331899	397037	391191	0	0	335016	390969	.00	1.17	1.17	100	100	
*C	TDC CONVERSION	263844	181295	181333	0	0	255682	181295	.00	.71	.71	100	100	
*S	SUBCONTRACTS	180293	168959	189094	3069	2967	147114	162284	.97	1.10	1.10	86	86	
*X	DISTRIBUTABLES	248644	246790	290531	960	686	248208	289996	.71	1.17	1.17	100	100	
**	TOTAL PROJECT	1470673	1855026	1918706	5222	5667	1530562	1887747	1.09	1.23	1.23	98	98	

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JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
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SUMMARY OF TOTAL PROJECT

CALCULATIONS BASED ON BUDGET

PROJECT FCST DATE 11/20/81, FCST # 004

CUT-OFF DATE 5/21/82

LINE	ITEM	CATEGORY	CURRENT BUDGET MANHOURS	PROJECT FORECAST MANHOURS	TREND FORECAST MANHOURS	THIS WEEK CALC MANHOURS	ACTUAL MANHOURS	TO-DATE CALC MANHOURS	ACTUAL MANHOURS	PERFORMANCE THIS WEEK	FACTOR TO DATE	PERCENT TRND FCST	COMPLETE TRND FCST	PHYS
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*	E	EQUIPMENT	94260	149706	149920	0	0	94880	149730	.00	1.58	1.58	100	100
*	J	INSTRUMENTATION	148277	72687	71736	1193	730	146690	70482	.61	.48	.48	98	99
*	L	PIPING	279501	506719	505121	0	180	314656	502399	.00	1.60	1.60	99	100
*	M	STRUCTURAL STEEL	53744	60870	60772	0	0	44915	60772	.00	1.35	1.35	100	100
*	N	INSULAT & FIREPRF	93599	57081	72651	2654	2743	45416	47588	1.03	1.05	1.08	66	67
*	P	ELECTRICAL	288399	269198	270483	0	1091	330944	270483	.00	.82	.82	100	100
*	Q	CONCRETE	97909	223047	223134	0	0	132592	223047	.00	1.68	1.68	100	100
*	R	BUILDINGS	3615	7159	7122	0	0	3375	7122	.00	2.11	2.11	100	100
*	S	SITWORK	55436	66403	66403	0	0	55877	66391	.00	1.19	1.19	100	100
*	X	PAINTING	9091	4504	5592	415	224	5139	4684	.54	.91	.76	84	70
*	Y	SCAFFOLDING	42468	126667	126486	0	13	47702	126486	.00	2.65	2.65	100	100
*	Z	MISCEL SUBCONTRACTS	55730	64195	68755	0	0	60168	68567	.00	1.14	1.14	100	100
*	1	TEMP FACILITIES	56856	52920	60677	58	0	56856	60677	.00	1.07	1.07	100	100
*	2	TEMP SERVICE	166875	166764	203266	902	686	166439	202731	.76	1.22	1.22	100	100
*	5	OTHER OPERATIONS	24913	27106	26588	0	0	24913	26588	.00	1.07	1.07	100	100

**	TOTAL PROJECT		1470673	1855026	1918706	5222	5667	1530562	1887747	1.09	1.23	1.23	98	98
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DETAIL OF HYDROTRETR/PLATFRMR A

CALCULATIONS BASED ON BUDGET

PROJECT FCST DATE 11/20/81, FCST # 004

CUT-OFF DATE 5/21/82

LINE ITEM	CATEGORY	CURRENT	PROJECT	TREND	THIS WEEK		TO-DATE		PERFORMANCE		FACTOR		PERCENT	
		BUDGET MANHOURS	FORECAST MANHOURS	FORECAST MANHOURS	CALC MANHOURS	ACTUAL MANHOURS	CALC MANHOURS	ACTUAL MANHOURS	THIS WEEK	TO DATE	TRND FCST	COMPLETE TRND		
E	EQUIPMENT	74489	131451	131635	0	0	74598	131635	.00	1.76	1.76	100	100	
J	INSTRUMENTATION	41688	23006	24387	1193	730	40890	23211	.61	.57	.57	95	96	
L	PIPING	110971	307897	310812	0	180	156631	308721	.00	1.97	1.97	99	100	
M	STRUCTURAL STEEL	19593	31854	31854	0	0	23322	31854	.00	1.37	1.37	100	100	
N	INSULAT & FIREPRF	1	849	849	0	0	827	849	.00	1.03	1.03	100	100	
P	ELECTRICAL	75900	92183	93564	0	1091	96210	93564	.00	.97	.97	100	100	
Q	CONCRETE	75275	168745	168832	0	0	98844	168745	.00	1.71	1.71	100	100	
R	BUILDINGS	1180	3295	3258	0	0	1180	3258	.00	2.76	2.76	100	100	
S	SITEWORK	26964	24058	23939	0	0	26650	23939	.00	.90	.90	100	100	
Y	SCAFFOLDING	19932	77607	77427	0	13	25390	77427	.00	3.05	3.05	100	100	

№А	HYDRTRETR/PLATFRMR	445993	860945	866557	1193	2014	544542	863203	1.69	1.59	1.58	100	100
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RUN DATE 5/24/82
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CALCULATIONS BASED ON BUDGET

CUT-OFF DATE 5/21/82

LINE ITEM	CATEGORY	CURRENT	PROJECT	TREND	THIS WEEK		TO-DATE		PERFORMANCE FACTOR			PERCENT	
		BUDGET MANHOURS	FORECAST MANHOURS	FORECAST MANHOURS	CALC MANHOURS	ACTUAL MANHOURS	CALC MANHOURS	ACTUAL MANHOURS	THIS WEEK	TO DATE	TRND FCST	TRND TRND	COMPLETE PHYS

E	EQUIPMENT	19771	18255	18285	0	0	20282	18095	.00	.89	.90	99	100
J	INSTRUMENTATION	14131	8219	8220	0	0	12334	8200	.00	.66	.67	100	100
L	PIPING	109073	157111	151284	0	0	122243	151284	.00	1.24	1.24	100	100
M	STRUCTURAL STEEL	32893	27610	27538	0	0	20064	27538	.00	1.37	1.37	100	100
N	INSULAT & FIREPRF	16563	808	808	0	0	725	808	.00	1.11	1.11	100	100
P	ELECTRICAL	67965	41189	41093	0	0	76548	41093	.00	.54	.54	100	100
Q	CONCRETE	22034	52917	52917	0	0	32498	52917	.00	1.63	1.63	100	100
R	BUILDINGS	684	2058	2058	0	0	444	2058	.00	4.64	4.64	100	100
S	SITWORK	27857	41244	41363	0	0	28950	41351	.00	1.43	1.43	100	100
Y	SCAFFOLDING	20928	47626	47625	0	0	20928	47625	.00	2.28	2.28	100	100
*B	OFF-PLOTS	331899	397037	391191	0	0	335016	390969	.00	1.17	1.17	100	100

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ROBINSON REFINRY MODERNZTN PROJ-MOC
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DETAIL OF TDC CONVERSION C

CALCULATIONS BASED ON BUDGET

PROJECT FCST DATE 11/20/81, FCST # 004

CUT-OFF DATE 5/21/82

LINE	CATEGORY	CURRENT BUDGET MANHOURS	PROJECT FORECAST MANHOURS	TREND FORECAST MANHOURS	THIS WEEK CALC MANHOURS	ACTUAL MANHOURS	TO-DATE CALC MANHOURS	ACTUAL MANHOURS	PERFORMANCE THIS WEEK	TO DATE	TRND FCST	FACTOR COMPLETE	PERCENT TRND
J	INSTRUMENTATION	87723	36724	36762	0	0	88060	36724	.00	.42	.42	100	100
L	PIPING	25793	1678	1678	0	0	3283	1678	.00	.51	.51	100	100
M	STRUCTURAL STEEL	1220	1341	1341	0	0	1491	1341	.00	.90	.90	100	100
P	ELECTRICAL	144534	135826	135826	0	0	158186	135826	.00	.86	.86	100	100
Q	CONCRETE	600	1385	1385	0	0	1250	1385	.00	1.11	1.11	100	100
R	BUILDINGS	1751	1806	1806	0	0	1751	1806	.00	1.03	1.03	100	100
S	SITWORK	615	1101	1101	0	0	277	1101	.00	3.97	3.97	100	100
Y	SCAFFOLDING	1608	1434	1434	0	0	1384	1434	.00	1.04	1.04	100	100
*C	TDC CONVERSION	263844	181295	181333	0	0	255682	181295	.00	.71	.71	100	100

JOB NO. 14053-000
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DETAIL OF SUBCONTRACTS

S

CALCULATIONS BASED ON BUDGET

PROJECT FCST DATE 11/20/81, FCST # 004

CUT-OFF DATE 5/21/82

LINE ITEM	CATEGORY	CURRENT BUDGET MANHOURS	PROJECT FORECAST MANHOURS	TREND FORECAST MANHOURS	THIS WEEK CALC MANHOURS	ACTUAL MANHOURS	TO-DATE CALC MANHOURS	ACTUAL MANHOURS	PERFORMANCE THIS WEEK	TO DATE	TRND FCST	COMPLETE PERCENT	PHYS
J	INSTRUMENTATION	4735	4738	2367	0	0	5406	2347	.00	.43	.44	99	100
L	PIPING	33664	40033	41347	0	0	32499	40716	.00	1.25	1.27	98	100
M	STRUCTURAL STEEL	38	65	39	0	0	38	39	.00	1.03	1.03	100	100
N	INSULAT & FIREPRF	77035	55424	70994	2654	2743	43864	45931	1.03	1.05	1.08	65	67
X	PAINTING	9091	4504	5592	415	224	5139	4684	.54	.91	.76	84	70
Z	MISCAL SUBCONTRACTS	55730	64195	68755	0	0	60168	68567	.00	1.14	1.14	100	100
*S	SUBCONTRACTS	180293	168959	189094	3069	2967	147114	162284	.97	1.10	1.10	86	86

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DETAIL OF DISTRIBUTABLES X

CALCULATIONS BASED ON BUDGET

PROJECT FCST DATE 11/20/81, FCST # 004

CUT-OFF DATE 5/21/82

LINE	CATEGORY	CURRENT BUDGET MANHOURS	PROJECT FORECAST MANHOURS	TREND FORECAST MANHOURS	THIS WEEK CALC MANHOURS	ACTUAL MANHOURS	TO-DATE CALC MANHOURS	ACTUAL MANHOURS	PERFORMANCE THIS WEEK	TO DATE	TRND FCST	PERCENT COMPLETE	PHYS
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1	TEMP FACILITIES	56856	52920	60677	58	0	56856	60677	.00	1.07	1.07	100	100
2	TEMP SERVICE	166875	166764	203266	902	686	166439	202731	.76	1.22	1.22	100	100
5	OTHER OPERATIONS	24913	27106	26588	0	0	24913	26588	.00	1.07	1.07	100	100

*X	DISTRIBUTABLES	248644	246790	290531	960	686	248208	289996	.71	1.17	1.17	100	100
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DETAIL OF HYDRTRETR/PLATFRMR A

CALCULATIONS BASED ON BUDGET

PROJECT FCST DATE 11/20/81, FCST # 004

CUT-OFF DATE 5/21/82

LINE ITEM	COMMODITY	CURRENT	PROJECT	TREND	THIS WEEK		TC-DATE		PERFORMANCE FACTOR PERCENT				
		BUDGET MANHOURS	FORECAST MANHOURS	FORECAST MANHOURS	CALC MANHOURS	ACTUAL MANHOURS	CALC MANHOURS	ACTUAL MANHOURS	THIS WEEK	TO DATE	TRND FCST	COMPLETE TRND	PHYS

E10	ERECT COLUMNS&VLS	5399	10878	10904	0	0	5013	10904	.00	2.18	2.18	100	100
E11	PLATFORMING REACTR	4500	6536	6536	0	0	4500	6536	.00	1.45	1.45	100	100
E12	LOAD CATALYST	0	0	0	0	0	0	0	.00	.00	.00	0	0
E20	ERECT STORAGE TANK	168	54	54	0	0	84	54	.00	.64	.64	100	100
E30	HEAT EXCHANGERS	7500	11162	11194	0	0	7667	11194	.00	1.46	1.46	100	100
E40	FIRE HEATER	7181	29809	29809	0	0	7181	29809	.00	4.15	4.15	100	100
E41	PLATFORMG HEATERS	21135	49354	49480	0	0	21135	49480	.00	2.34	2.34	100	100
E50	PUMPS & DRIVER	5723	6229	6229	0	0	4562	6229	.00	1.37	1.37	100	100
E60	COMPRESSORS&DRIVER	1000	1771	1771	0	0	1000	1771	.00	1.77	1.77	100	100
E61	GAS BOOSTER COMP	9900	7573	7573	0	0	9900	7573	.00	.76	.76	100	100
E62	RECYCLE GAS C/COMP	6600	4669	4669	0	0	6600	4669	.00	.71	.71	100	100
E63	RECYCLE GAS COMPR	3300	2341	2341	0	0	3300	2341	.00	.71	.71	100	100
E70	OTHER EQUIPMENT	2083	1075	1075	0	0	3656	1075	.00	.29	.29	100	100
J01	PREFAB INST SUPTS	2195	404	404	0	0	735	404	.00	.55	.55	100	100
J11	INSTALL XMITTERS	8703	4210	4210	0	0	9511	4210	.00	.44	.44	100	100
J15	REMOVE&INSTALL INST	7731	2863	2830	0	10	8831	2830	.00	.32	.32	100	100
J22	SATELLITE RACKS	3	276	276	0	0	450	276	.00	.61	.61	100	100
J31	LOCAL CONTROL PANL	140	768	792	0	24	2660	792	.00	.30	.30	100	100
J50	INSTRUMENT SHELTER	2982	249	265	0	16	625	265	.00	.42	.42	100	100
J60	ANALYZER&PACKAGE	7266	627	645	0	0	1313	645	.00	.49	.49	100	100
J70	INSTR TUBE&PIPE	185	89	89	0	0	176	89	.00	.51	.51	100	100
J71	INSTR INTRU TB&PIP	670	1361	1423	0	0	1320	1423	.00	1.08	1.08	100	100
J74	INST AIR SUBHEADER	2365	5224	5375	0	0	4922	5375	.00	1.09	1.09	100	100
J81	LOOP CHECK	1750	3186	4874	830	566	5293	3736	.68	.71	.71	77	77
J82	CALIBRATION&TESTNG	6521	3296	2751	363	114	3877	2713	.31	.70	.70	99	98
J95	DISPOSAL EXIST INS	1177	453	453	0	0	1177	453	.00	.38	.38	100	100
L10	STEAM TRACE PIP&SH	88	11530	11532	0	0	6613	11530	.00	1.74	1.74	100	100
L11	SPL 2 IN&SM PIPE	43004	94007	94505	0	180	39853	94491	.00	2.37	2.37	100	100
L12	SPL 2.5-6 IN PIPE	28902	120555	120725	0	0	54239	120720	.00	2.23	2.23	100	100
L17	INST CS RACK3IN-6I	11802	10483	10483	0	0	8658	10483	.00	1.21	1.21	100	100
L21	SPL AL 2IN&SM PIPE	3388	2692	2692	0	0	2537	2692	.00	1.06	1.06	100	100
L22	SPL AL 2.5-6INPIPE	6213	27292	27292	0	0	9724	27292	.00	2.81	2.81	100	100
L24	RCK AL 2.5-6IN PIP	752	0	2068	0	0	0	0	.00	.00	2.75	0	0
L70	UU/G CS PIPE	5083	6263	6263	0	0	5087	6263	.00	1.23	1.23	100	100
L80	STM TRACE TBG	3553	9604	9706	0	0	8440	9704	.00	1.15	1.15	100	100
L81	COMMODITY	88	5453	5496	0	0	10471	5496	.00	.52	.52	100	100
L91	X-RAY&STR RELIEVNG	1400	3471	3471	0	0	1400	3471	.00	2.48	2.48	100	100
L98	TESTING&INSPECTION	6698	16547	16579	0	0	9609	16579	.00	1.73	1.73	100	100
M10	STEEL STRUCTURE	14530	17477	17477	0	0	11264	17477	.00	1.55	1.55	100	100
M20	LADDERS&PLAT,&HRL	4575	13144	13144	0	0	11043	13144	.00	1.19	1.19	100	100
M30	PIPEWAY STEEL	488	1233	1233	0	0	1015	1233	.00	1.21	1.21	100	100
N30	INSULATE INSTRUMTS	1	849	849	0	0	827	849	.00	1.03	1.03	100	100
P12	POWER&CONTROL EQUIP	6218	5664	5745	0	48	9988	5745	.00	.58	.58	100	100
P13	JPS EQUIP&STCDBY	800	524	524	0	0	753	524	.00	.70	.70	100	100
P14	LIGHT FIXTURES&RCT	1498	4054	4093	0	39	2866	4093	.00	1.43	1.43	100	100
P16	PROGRAM CONTROLLER	320	0	0	0	0	0	0	.00	.00	.00	0	0

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38040-35

FOCUS
PERFORMANCE REPORT

RUN DATE 5/24/82
PAGE 2

DETAIL OF HYDRTRETR/PLATFRMR A

CALCULATIONS BASED ON BUDGET

PROJECT FCST DATE 11/20/81, FCST # 004

CUT-OFF DATE 5/21/82

*****		*****										*****	
LINE	COMMODITY	CURRENT BUDGET	PROJECT FORECAST	TREND FORECAST	THIS WEEK CALC	ACTUAL	TO-DATE CALC	ACTUAL	PERFORMANCE THIS WEEK	FACTOR TO DATE	PERCENT TRND FCST	PERCENT COMPLETE TRND	PHYS
ITEM		MANHOURS	MANHOURS	MANHOURS	MANHOURS	MANHOURS	MANHOURS	MANHOURS					

P21	RGS BRANCH CONDUIT	29111	46753	47913	0	764	44884	47913	.00	1.07	1.07	100	100
P23	NON-METALLIC COND	4117	4183	4183	0	0	2854	4183	.00	1.47	1.47	100	100
P25	CABLE TRAY	15	1268	1272	0	0	1343	1272	.00	.95	.95	100	100
P31	600V&1KV CABLE	8448	6701	6732	0	10	7193	6732	.00	.94	.94	100	100
P32	5KV& LARGER CABLE	1110	725	725	0	0	1409	725	.00	.51	.51	100	100
P33	ELECT&TC WIRE	4624	4961	4961	0	0	4229	4961	.00	1.17	1.17	100	100
P34	TERMNTN 600V&1KV	2353	4029	4092	0	58	3282	4092	.00	1.25	1.25	100	100
P35	TERMNTN 5KV&ABOCE	320	467	486	0	0	367	486	.00	1.32	1.32	100	100
P36	TERMNTN ELECT&TC	3697	4485	4495	0	0	4147	4495	.00	1.08	1.08	100	100
P41	GROUNDING	3487	2495	2580	0	48	6979	2580	.00	.37	.37	100	100
P42	GROUNDWELLS	236	115	115	0	0	236	115	.00	.49	.49	100	100
P43	ELECT HEAT TRACING	8256	2011	1888	0	112	2400	1888	.00	.79	.79	100	100
P50	O/H POLE LINE DIST	9	0	0	0	0	0	0	.00	.00	.00	0	0
P80	TESTING	1280	1949	1961	0	12	1280	1961	.00	1.53	1.53	100	100
P99	MATERIAL HANDLING	1	1799	1799	0	0	2000	1799	.00	.90	.90	100	100
Q01	FABRICATE REBAR	715	1266	1266	0	0	715	1266	.00	1.77	1.77	100	100
Q11	FOUNDATN CONCRETE	6350	11098	11100	0	0	11104	11098	.00	1.00	1.00	100	100
Q12	STRUCT CONCRETE	8643	9037	9037	0	0	8735	9037	.00	1.03	1.03	100	100
Q15	OTHER CONCRETE	797	204	204	0	0	1110	204	.00	.18	.18	100	100
Q21	FOUND REBAR	3180	11622	11622	0	0	9660	11622	.00	1.20	1.20	100	100
Q22	STRUCT REBAR	2858	21953	22038	0	0	4357	21953	.00	5.04	5.04	100	100
Q25	OTHER REBAR	375	0	0	0	0	0	0	.00	.00	.00	0	0
Q31	FOUND FORMS	6458	28507	28507	0	0	11396	28507	.00	2.50	2.50	100	100
Q32	STRUCT FORMS	16672	54213	54213	0	0	30837	54213	.00	1.76	1.76	100	100
Q35	OTHER FORMS	735	0	0	0	0	0	0	.00	.00	.00	0	0
Q40	MISC CONC (COMP)	400	438	438	0	0	84	438	.00	5.21	5.21	100	100
Q61	PRECAST CONCRETE	1147	1780	1780	0	0	984	1780	.00	1.81	1.81	100	100
Q62	PRECAST REBAR	1312	4193	4193	0	0	2224	4193	.00	1.89	1.89	100	100
Q63	PRECAST FORMWORK	7222	9871	9871	0	0	5310	9871	.00	1.86	1.86	100	100
Q69	SET PRECST ITEMS	3824	7226	7226	0	0	3280	7226	.00	2.20	2.20	100	100
Q71	CONCRETE PAVING	11275	3894	3894	0	0	5760	3894	.00	.68	.68	100	100
Q73	CONDUIT ENVELOPES	3312	3443	3443	0	0	3288	3443	.00	1.05	1.05	100	100
R03	ELECTRICAL SUBSTAT	560	1345	1341	0	0	560	1341	.00	2.39	2.39	100	100
R10	BUILDING	270	650	619	0	0	270	619	.00	2.29	2.29	100	100
R20	SATELLITE CONT.RM.	350	1300	1298	0	0	350	1298	.00	3.71	3.71	100	100
S03	DEWATERING	2800	4673	4673	0	0	4100	4673	.00	1.14	1.14	100	100
S11	EXCAVATION&DISPOS	5183	5047	5047	0	0	8669	5047	.00	.58	.58	100	100
S12	BACKFILL&COMPACTIN	7917	5985	5985	0	0	4727	5985	.00	1.27	1.27	100	100
S31	SEWERS & DRAINAGE	2468	3415	3415	0	0	2126	3415	.00	1.61	1.61	100	100
S32	PRECAST MANHOLES	2450	3038	3038	0	0	2940	3038	.00	1.03	1.03	100	100
S41	FINE GRADING&LEVIG	6146	1900	1781	0	0	4088	1781	.00	.44	.44	100	100
Y10	SCAFFOLDING	19932	77607	77427	0	13	25390	77427	.00	3.05	3.05	100	100
*A	HYDRTRETR/PLATFRMR	445993	860945	866557	1193	2014	544542	863203	1.69	1.59	1.58	100	100

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MCC
REPORT NO. C38040-35

FOCUS
P E R F O R M A N C E R E P O R T

RUN DATE 5/24/82
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DETAIL OF OFF-PLOTS

B

CALCULATIONS BASED ON BUDGET

PROJECT FCST DATE 11/20/81, FCST # 004

CUT-OFF DATE 5/21/82

LINE ITEM	COMMODITY	CURRENT	PROJECT	TREND	THIS WEEK		TO-DATE		PERFORMANCE FACTOR		PERCENT		
		BUDGET MANHOURS	FORECAST MANHOURS	FORECAST MANHOURS	CALC MANHOURS	ACTUAL MANHOURS	CALC MANHOURS	ACTUAL MANHOURS	THIS WEEK	TO DATE	TRND FCST	COMPLETE TRND PHYS	

E10	ERECT COLUMNS&VLS	3497	6130	6130	0	0	4007	6130	.00	1.53	1.53	100	100
E20	ERECT STORAGE TANK	160	57	57	0	0	150	57	.00	.38	.38	100	100
E30	HEAT EXCHANGERS	1642	1473	1473	0	0	1181	1473	.00	1.25	1.25	100	100
E31	CONDENSOR 23E-9	1980	1100	1100	0	0	1980	1100	.00	.56	.56	100	100
E40	FIRE HEATER	2300	4688	4688	0	0	2300	4688	.00	2.04	2.04	100	100
E50	PUMPS & DRIVER	7365	3692	3692	0	0	7521	3692	.00	.49	.49	100	100
E60	COMPRESSORS&DRIVER	500	252	252	0	0	500	252	.00	.50	.50	100	100
E70	OTHER EQUIPMENT	2387	863	893	0	0	2643	703	.00	.27	.34	79	100
J01	PREFAB INST SUPTS	640	109	109	0	0	320	109	.00	.34	.34	100	100
J11	INSTALL XMITTERS	1900	1293	1293	0	0	2980	1293	.00	.43	.43	100	100
J15	REMOVE&INSTALL INST	2478	1378	1378	0	0	1922	1378	.00	.72	.72	100	100
J31	LOCAL CONTROL PANL	106	51	36	0	0	71	16	.00	.23	.51	44	100
J50	INSTRUMENT SHELTER	1173	805	805	0	0	980	805	.00	.82	.82	100	100
J60	ANALYZER&PACKAGE	650	8	8	0	0	9	8	.00	.89	.89	100	100
J70	INSTR TUBE&PIPE	1546	2129	2145	0	0	2459	2145	.00	.87	.87	100	100
J81	LOOP CHECK	871	1569	1569	0	0	2798	1569	.00	.56	.56	100	100
J82	CALIBRATION&TESTNG	3583	877	877	0	0	795	877	.00	1.10	1.10	100	100
J95	DISPOSAL EXIST INS	1184	0	0	0	0	0	0	.00	.00	.00	0	0
L10	STEAM TRACE PIPE&SH	65	6552	6551	0	0	4231	6551	.00	1.55	1.55	100	100
L11	SPL 2 IN&SM PIPE	20017	34072	34072	0	0	30328	34072	.00	1.12	1.12	100	100
L12	SPL 2.5-6 IN PIPE	24165	58759	58768	0	0	39938	58768	.00	1.47	1.47	100	100
L17	INST CS RACK3IN-6I	51361	29207	29172	0	0	27572	29172	.00	1.06	1.06	100	100
L21	SPL AL 2IN&SM PIPE	655	5800	0	0	0	0	0	.00	.00	.00	0	0
L22	SPL AL 2.5-6INPIPE	385	0	0	0	0	0	0	.00	.00	.00	0	0
L24	RCK AL 2.5-6IN PIP	596	0	0	0	0	0	0	.00	.00	.00	0	0
L70	UU/G CS PIPE	3691	6135	6135	0	0	5140	6135	.00	1.19	1.19	100	100
L80	STM TRACE TBG	189	8256	8256	0	0	7370	8256	.00	1.12	1.12	100	100
L91	X-RAY&STR RELIEVNG	625	483	483	0	0	225	483	.00	2.15	2.15	100	100
L93	TIE-IN WORK	13	901	901	0	0	468	901	.00	1.93	1.93	100	100
L98	TESTING&INSPECTION	7371	6946	6946	0	0	6971	6946	.00	1.00	1.00	100	100
M10	STEEL STRUCTURE	4776	945	945	0	0	659	945	.00	1.43	1.43	100	100
M20	LADDERS&PLAT, GHRL	2992	6138	6138	0	0	3948	6138	.00	1.55	1.55	100	100
M30	PIPEWAY STEEL	20294	18717	18717	0	0	14550	18717	.00	1.29	1.29	100	100
M40	MISCELL STRCT STEL	4831	1810	1738	0	0	907	1738	.00	1.92	1.92	100	100
N30	INSULATE INSTRUMTS	1	808	808	0	0	725	808	.00	1.11	1.11	100	100
N40	FIREPROOF STRUT SL	16562	0	0	0	0	0	0	.00	.00	.00	0	0
P11	POWER DISTRB EQP	2590	359	359	0	0	2302	359	.00	.16	.16	100	100
P12	POWER&CONTROL EQUP	5049	2409	2409	0	0	5603	2409	.00	.43	.43	100	100
P13	UPS EQUIP&STDBY	400	0	0	0	0	0	0	.00	.00	.00	0	0
P14	LIGHT FIXTURES&RCT	1692	1322	1242	0	0	3479	1242	.00	.36	.36	100	100
P21	RGS BRANCH CONDUIT	26521	20440	20424	0	0	32156	20424	.00	.64	.64	100	100
P22	U/G CONDUIT	160	46	46	0	0	51	46	.00	.90	.90	100	100
P23	NON-METALLIC COND	880	563	563	0	0	448	563	.00	1.26	1.26	100	100
P25	CABLE TRAY	1600	0	0	0	0	0	0	.00	.00	.00	0	0
P31	600V&1KV CABLE	5072	3016	3016	0	0	4619	3016	.00	.65	.65	100	100
P32	5KVE LARGER CABLE	322	151	153	0	0	473	153	.00	.32	.32	100	100

GARRARD 00000697

DETAIL OF OFF-PLOTS

B

CALCULATIONS BASED ON BUDGET

PROJECT FCST DATE 11/20/81, FCST # 004

CUT-OFF DATE 5/21/82

LINE		CURRENT	PROJECT	TREND	THIS WEEK		TO-DATE		PERFORMANCE		FACTOR	PERCENT	
ITEM	COMMODITY	BUDGET	FORECAST	FORECAST	CALC	ACTUAL	CALC	ACTUAL	THIS	TO		TRND	COMPLETE
		MANHOURS	MANHOURS	MANHOURS	MANHOURS	MANHOURS	MANHOURS	MANHOURS	WEEK	DATE	FCST	TRND	PERCENT

P33	ELECT&TC WIRE	3384	1898	1898	0	0	2620	1898	.00	.72	.72	100	100
P34	TERMNTN 600V&1KV	1541	731	731	0	0	1509	731	.00	.48	.48	100	100
P35	TERMNTN 5KV&ABUCE	465	459	459	0	0	754	459	.00	.61	.61	100	100
P36	TERMNTN ELECT&TC	2672	1450	1450	0	0	2334	1450	.00	.62	.62	100	100
P41	GROUNDING	1655	1261	1261	0	0	1996	1261	.00	.63	.63	100	100
P43	ELECT HEAT TRACING	10917	2985	2985	0	0	9901	2985	.00	.30	.30	100	100
P50	O/H POLE LINE DIST	2249	3490	3488	0	0	7508	3488	.00	.46	.46	100	100
P80	TESTING	795	609	609	0	0	795	609	.00	.77	.77	100	100
P99	MATERIAL HANDLING	1	0	0	0	0	0	0	.00	.00	.00	0	0
Q01	FABRICATE REBAR	16	1285	1285	0	0	160	1285	.00	8.03	8.03	100	100
Q11	FOUNDATN CONCRETE	2353	5831	5831	0	0	2904	5831	.00	2.01	2.01	100	100
Q12	STRUCT CONCRETE	38	442	442	0	0	433	442	.00	1.02	1.02	100	100
Q21	FOUND REBAR	1167	6101	6101	0	0	1352	6101	.00	4.51	4.51	100	100
Q22	STRUCT REBAR	13	1199	1199	0	0	130	1199	.00	9.22	9.22	100	100
Q31	FOUND FORMS	8415	14755	14755	0	0	8220	14755	.00	1.80	1.80	100	100
Q32	STRUCT FORMS	44	3919	3919	0	0	2840	3919	.00	1.38	1.38	100	100
Q40	MISC CONC (COMP)	2272	3279	3279	0	0	4150	3279	.00	.79	.79	100	100
Q61	PRECAST CONCRETE	24	557	557	0	0	410	557	.00	1.36	1.36	100	100
Q62	PRECAST REBAR	16	1531	1531	0	0	448	1531	.00	3.42	3.42	100	100
Q63	PRECAST FORMWORK	4	5676	5676	0	0	3016	5676	.00	1.88	1.88	100	100
Q69	SET PRECST ITEMS	80	3619	3619	0	0	1384	3619	.00	2.61	2.61	100	100
Q71	CONCRETE PAVING	6837	3125	3125	0	0	6367	3125	.00	.49	.49	100	100
Q73	CONDUIT ENVELOPES	755	1598	1598	0	0	684	1598	.00	2.34	2.34	100	100
R01	MISCELL ARCHITECT	0	0	0	0	0	0	0	.00	.00	.00	0	0
R10	BUILDING	145	1302	1302	0	0	145	1302	.00	8.98	8.98	100	100
R90	PACKAGED BLDGS	240	0	0	0	0	0	0	.00	.00	.00	0	0
R95	REVAMP EXIST BLDGS	299	756	756	0	0	299	756	.00	2.53	2.53	100	100
S03	DEWATERING	875	4306	4306	0	0	875	4306	.00	4.92	4.92	100	100
S11	EXCAVATION&DISPOS	10895	11258	11213	0	0	11337	11213	.00	.99	.99	100	100
S12	BACKFILL&COMPACTIN	2638	7842	7854	0	0	2606	7842	.00	3.01	3.01	100	100
S31	SEWERS & DRAINAGE	5316	8493	8493	0	0	5579	8493	.00	1.52	1.52	100	100
S32	PRECAST MANHOLES	1271	1420	1420	0	0	1533	1420	.00	.93	.93	100	100
S41	FINE GRADING&LEVIG	2366	1312	1464	0	0	2524	1464	.00	.58	.58	100	100
S98	DEMOLITION	4496	6613	6613	0	0	4496	6613	.00	1.47	1.47	100	100
Y10	SCAFFOLDING	20928	47626	47625	0	0	20928	47625	.00	2.28	2.28	100	100
*B	OFF-PLOTS	331899	397037	391191	0	0	335016	390969	.00	1.17	1.17	100	100

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38040-35

FOCUS
P E R F O R M A N C E R E P O R T

RUN DATE 5/24/82
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DETAIL OF TDC CONVERSION C CALCULATIONS BASED ON BUDGET

PROJECT FCST DATE 11/20/81, FCST # 004										CUT-OFF DATE 5/21/82			

LINE		CURRENT	PROJECT	TREND	THIS WEEK		TO-DATE		PERFORMANCE		FACTOR		PERCENT
ITEM	COMMODITY	BUDGET	FORECAST	FORECAST	CALC	ACTUAL	CALC	ACTUAL	THIS	TO	TRND	COMPLETE	
		MANHOURS	MANHOURS	MANHOURS	MANHOURS	MANHOURS	MANHOURS	MANHOURS	WEEK	DATE	FCST	TRND	PHYS

J01	PREFAB INST SUPTS	1920	903	903	0	0	1872	903	.00	.48	.48	100	100
J10	PRESSEMBLE XMITRS	5512	2044	2044	0	0	5413	2044	.00	.38	.38	100	100
J11	INSTALL XMITTERS	30593	9802	9802	0	0	34553	9802	.00	.28	.28	100	100
J15	REMOVE&INSTALL INST	1180	624	624	0	0	744	624	.00	.84	.84	100	100
J17	INSTALL P/I TRNDRS	2700	1389	1389	0	0	2975	1389	.00	.47	.47	100	100
J19	INSTALL I/P TRNDRS	3800	1965	1965	0	0	4190	1965	.00	.47	.47	100	100
J21	MAIN CONTROL PANEL	626	555	555	0	0	626	555	.00	.89	.89	100	100
J22	SATELLITE RACKS	1171	950	950	0	0	1347	950	.00	.71	.71	100	100
J26	PROCESS COMPUTER	100	283	283	0	0	70	283	.00	4.04	4.04	100	100
J31	LOCAL CONTROL PANL	100	88	88	0	0	100	88	.00	.88	.88	100	100
J50	INSTRUMENT SHELTER	13200	1526	1560	0	0	3820	1526	.00	.40	.41	98	100
J70	INSTR TUBE&PIPE	7974	1006	1010	0	0	1986	1006	.00	.51	.51	100	100
J74	INST AIR SUBHEADER	2	500	500	0	0	1076	500	.00	.46	.46	100	100
J81	LOOP CHECK	11015	11630	11630	0	0	21270	11630	.00	.55	.55	100	100
J82	CALIBRATION&TESTNG	7830	3459	3459	0	0	8018	3459	.00	.43	.43	100	100
L11	SPL 2 IN&SM PIPE	7290	11	11	0	0	0	11	.00	.00	.00	100	0
L80	STM TRACE TBG	18503	1667	1667	0	0	3283	1667	.00	.51	.51	100	100
M40	MISCELL STRCT STEL	1220	1341	1341	0	0	1491	1341	.00	.90	.90	100	100
P11	POWER DISTRB EQP	360	456	456	0	0	360	456	.00	1.27	1.27	100	100
P12	POWER&CONTROL EQUIP	3562	4330	4330	0	0	5658	4330	.00	.77	.77	100	100
P13	UPS EQUIP&STDBY	2086	1557	1557	0	0	2086	1557	.00	.75	.75	100	100
P14	LIGHT FIXTURES&RCT	70	120	120	0	0	50	120	.00	2.40	2.40	100	100
P15	OTHER ELECT EQUIP	4755	3912	3912	0	0	7405	3912	.00	.53	.53	100	100
P16	PROGRAM CONTROLLER	3673	663	663	0	0	3585	663	.00	.18	.18	100	100
P20	RGS CONDUIT MAINS	13379	19104	19104	0	0	23627	19104	.00	.81	.81	100	100
P21	RGS BRANCH CONDUIT	33830	37768	37768	0	0	39796	37768	.00	.95	.95	100	100
P22	U/G CONDUIT	1115	1528	1528	0	0	1747	1528	.00	.87	.87	100	100
P25	CABLE TRAY	17740	18624	18624	0	0	18266	18624	.00	1.02	1.02	100	100
P30	DATA HGHWY CABLE	1619	6465	6465	0	0	3484	6465	.00	1.86	1.86	100	100
P31	600V&1KV CABLE	364	3740	3740	0	0	5100	3740	.00	.73	.73	100	100
P32	5KV& LARGER CABLE	1223	1621	1621	0	0	1003	1621	.00	1.62	1.62	100	100
P33	ELECT&TC WIRE	18222	4919	4919	0	0	4990	4919	.00	.99	.99	100	100
P34	TERMNTN 600V&1KV	450	1481	1481	0	0	2064	1481	.00	.72	.72	100	100
P36	TERMNTN ELECT&TC	17952	18166	18166	0	0	24143	18166	.00	.75	.75	100	100
P37	ELECT/TC WIRE MAIN	2402	2546	2546	0	0	5043	2546	.00	.50	.50	100	100
P41	GROUNDING	14162	4238	4238	0	0	4808	4238	.00	.88	.88	100	100
P42	GROUNDWELLS	1541	2292	2292	0	0	1587	2292	.00	1.44	1.44	100	100
P43	ELECT HEAT TRACING	2098	47	47	0	0	39	47	.00	1.21	1.21	100	100
P80	TESTING	1919	369	369	0	0	365	369	.00	1.01	1.01	100	100
P90	ELECT DISCONNECTS	2011	1508	1508	0	0	2880	1508	.00	.52	.52	100	100
P95	ELECT DEMOLITION	1	372	372	0	0	100	372	.00	3.72	3.72	100	100
Q40	MISC CONC (COMP)	220	902	902	0	0	720	902	.00	1.25	1.25	100	100
Q73	CONDUIT ENVELOPES	380	483	483	0	0	530	483	.00	.91	.91	100	100
R01	MISCELL ARCHITECT	1751	1806	1806	0	0	1751	1806	.00	1.03	1.03	100	100
S11	EXCAVATION&DISPOSL	401	837	837	0	0	189	837	.00	4.43	4.43	100	100
S12	BACKFILL&COMPACTIN	214	264	264	0	0	88	264	.00	3.00	3.00	100	100

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RUN DATE 5/24/82
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DETAIL OF TDC CONVERSION C

CALCULATIONS BASED ON BUDGET

PROJECT FCST DATE 11/20/81, FCST # 004

CUT-OFF DATE 5/21/82

LINE	COMMODITY	CURRENT BUDGET MANHOURS	PROJECT FORECAST MANHOURS	TREND FORECAST MANHOURS	THIS WEEK CALC MANHOURS	ACTUAL MANHOURS	TO-DATE CALC MANHOURS	ACTUAL MANHOURS	PERFORMANCE THIS WEEK	TO DATE	TRND FCST	COMPLETE TRND	PERCENT PHYS
Y10	SCAFFOLDING	1608	1434	1434	0	0	1384	1434	.00	1.04	1.04	100	100
*C	TDC CONVERSION	263844	181295	181333	0	0	255682	181295	.00	.71	.71	100	100

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CALCULATIONS BASED ON BUDGET

CUT-OFF DATE 5/21/82

GARRARD 00000701

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REPORT NO. C38040-35

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DETAIL OF SUBCONTRACTS S CALCULATIONS BASED ON BUDGET

PROJECT FCST DATE 11/20/81, FCST # 004

CUT-OFF DATE 5/21/82

LINE	COMMODITY	CURRENT BUDGET MANHOURS	PROJECT FORECAST MANHOURS	TREND FORECAST MANHOURS	THIS WEEK CALC MANHOURS	ACTUAL MANHOURS	TO-DATE CALC MANHOURS	ACTUAL MANHOURS	PERFORMANCE THIS WEEK	FACTOR TO DATE	PERCENT TRND FCST	COMPLETE TRND	PERCENT PHYS
Z34	ROOFING FSC34	80	160	168	0	0	240	168	.00	.70	.70	100	100
Z36	CLEAN COMPR PIPE	12	500	2444	0	0	1200	2444	.00	2.04	2.04	100	100
Z38	REWORK 29C-1 FSC38	1915	1700	1106	0	0	1915	1106	.00	.58	.58	100	100
Z60	COMP AREA REWORK	2000	0	0	0	0	0	0	.00	.00	.00	0	0
Z91	ACOUSTIC EMISSIONS	2	192	338	0	0	200	338	.00	1.69	1.69	100	100
Z99	MAINTENANCE ROADS	688	183	183	0	0	688	183	.00	.27	.27	100	100
*S	SUBCONTRACTS	180293	168959	189094	3069	2967	147114	162284	.97	1.10	1.10	86	86

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DETAIL OF DISTRIBUTABLES

X
CALCULATIONS BASED ON BUDGET

PROJECT FCST DATE 11/20/81, FCST # 004

CUT-OFF DATE 5/21/82

LINE	COMMODITY	CURRENT BUDGET MANHOURS	PROJECT FORECAST MANHOURS	TREND FORECAST MANHOURS	THIS WEEK CALC MANHOURS	ACTUAL MANHOURS	TO-DATE CALC MANHOURS	ACTUAL MANHOURS	PERFORMANCE THIS WEEK	TO DATE	TRNO FCST	FACTOR TRND	PERCENT COMPLETE PHYS
110	TEMP BUILDINGS	9500	14000	14174	58	0	9500	14174	.00	1.49	1.49	100	100
120	TEMP WORK AREAS	7670	6537	6188	0	0	7670	6188	.00	.81	.81	100	100
130	TEMP ROADS & PRKG	4779	3600	4009	0	0	4779	4009	.00	.84	.84	100	100
150	TEMP POWER	13866	15556	19080	0	0	13866	19080	.00	1.38	1.38	100	100
160	TEMP WATER,AIR,SWR	10441	3930	2505	0	0	10441	2505	.00	.24	.24	100	100
170	MINOR TEMP CONSTR	4100	4192	3455	0	0	4100	3455	.00	.84	.84	100	100
190	WINTERIZATION	6500	5105	11266	0	0	6500	11266	.00	1.73	1.73	100	100
210	GENERAL CLEAN-UP	26379	23250	43510	192	116	26379	43510	.60	1.65	1.65	100	100
220	MAINT TOOLS & EQUIP	20200	15268	16329	160	0	20100	16248	.00	.81	.81	100	100
224	RUBBER SFTY BLANKT	8644	5400	6308	0	0	8644	6308	.00	.73	.73	100	100
231	FIRST DRGP	13926	14200	13926	0	0	13926	13926	.00	1.00	1.00	100	100
232	WAREHOUSING	53806	64000	72716	470	376	53470	72262	.80	1.35	1.35	99	99
250	UNALLOCATED LABOR	20920	24746	27457	80	65	20920	27457	.81	1.31	1.31	100	100
260	ON-OFF EXPENSES	8000	6000	9601	0	89	8000	9601	.00	1.20	1.20	100	100
270	SURVEYING	15000	13900	13419	0	40	15000	13419	.00	.89	.89	100	100
510	WELDER TESTING	8272	5986	7439	0	0	8272	7438	.00	.90	.90	100	100
520	WELDER TRAINING	1602	1120	1464	0	0	1602	1464	.00	.91	.91	100	100
530	SHOW-UP TIME	15039	20000	17462	0	0	15039	17462	.00	1.16	1.16	100	100
540	B.M. HOLIDAY HOURS	0	0	224	0	0	0	224	.00	.00	.00	100	0
*X	DISTRIBUTABLES	248644	246790	290531	960	686	248208	289996	.71	1.17	1.17	100	100

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ERECT COLUMNS&VSLs E10

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT OF BUDGET	QUANTITY FCST	TO THIS BUDGET	MANHOURS FCST	TO THIS BUDGET	UNIT MANHOURS	TO THIS BUDGET
ACCT# QUANT	#004	DATE	WEEK	#004	DATE	#004	DATE

ERECT COLUMNS & VESS B29E10 BMHRS	100	300	300	0	35	42	42
**TOTAL ERECT COLUMNS&VSLs	100	300	300	0	35	42	42
TREND FORECAST MH	42	TREND FORECAST PERF	.40	** PERFORMANCE RATIOS **	1.00	.40	.40
ERECT COLUMNS & VESS B09E10 EA	500	600	600	0	387	733	733
ERECT COLUMNS & VESS B21E10 EA	100	100	100	0	25	59	59
ERECT COLUMNS & VESS B23E10 EA	1000	1400	1400	0	2000	4525	4525
ERECT COLUMNS & VESS B28E10 EA	1200	700	700	0	1050	771	771
**TOTAL ERECT COLUMNS&VSLs	2800	2800	2800	0	3462	6088	6088
TREND FORECAST MH	6088	TREND FORECAST PERF	1.56	** PERFORMANCE RATIOS **	1.00	1.56	1.56
ERECT COLUMNS & VESS A16E10 UNITS	4200	3900	3900	0	5399	10878	10904
**TOTAL ERECT COLUMNS&VSLs	4200	3900	3900	0	5399	10878	10904
TREND FORECAST MH	10904	TREND FORECAST PERF	2.17	** PERFORMANCE RATIOS **	1.00	2.17	2.17

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ROBINSON REFINRY MODERNZTN PROJ-MOC
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QUANTITY AND UNIT RATE REPORT
PLATFORMING REACTR E11

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

ERECT PLATFORMNG REA A16E11 UNITS		100	100	100	0	4500	6536	6536	0	45.00	65.36	65.36	.00
**TOTAL PLATFORMING REACTR		100	100	100	0	4500	6536	6536	0	45.00	65.36	65.36	.00
TREND FORECAST MH	6536	TREND FORECAST PERF	1.45	** PERFORMANCE RATIOS **				1.00	1.45	1.45	.00		

GARRARD 00000705

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QUANTITY AND UNIT RATE REPORT
LOAD CATALYST E12

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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT OF	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

LOAD CATALYST	A16E12 CF	0	0	0	0	0	0	0	0	.00	.00	.00	.00
**TOTAL	LOAD CATALYST					0	0	0	0				
TREND FORECAST MH		0	TREND FORECAST PERF		.00	** PERFORMANCE RATIOS **				.00	.00	.00	.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
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F O C U S
QUANTITY AND UNIT RATE REPORT
ERECT STORAGE TANK E20

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION		UNIT	QUANTITY				MANHOURS				UNIT MANHOURS			
	ACCT#	OF QUANT	BUDGET	FCST #004	TO DATE	THIS WEEK	BUDGET	FCST #004	TO DATE	THIS WEEK	BUDGET	FCST #004	TO DATE	THIS WEEK

ERECT STORAGE TANKS	B32E20	EA	200	300	300	0	100	57	57	0	.50	.19	.19	.00
**TOTAL	ERECT STORAGE TANK		200	300	300	0	100	57	57	0	.50	.19	.19	.00
TREND FORECAST MH			57	TREND FORECAST PERF			.38	** PERFORMANCE RATIOS **			1.00	.38	.38	.00
ERECT STORAGE TANKS	A16E20	UNITS	400	200	200	0	168	54	54	0	.42	.27	.27	.00
**TOTAL	ERECT STORAGE TANK		400	200	200	0	168	54	54	0	.42	.27	.27	.00
TREND FORECAST MH			54	TREND FORECAST PERF			.64	** PERFORMANCE RATIOS **			1.00	.64	.64	.00

JOB NO. 14053-000
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F O C U S
QUANTITY AND UNIT RATE REPORT
HEAT EXCHANGERS E30

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	QUANTITY				MANHOURS				UNIT MANHOURS			
ACCT#	QUANT	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
			#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

INSTALL HEAT EXCHANG	B09E30 EA	600	900	900	0	272	213	213	0	.45	.24	.24	.00
ERECT HEAT EXCHANGER	B23E30 EA	1200	1300	1300	0	520	843	843	0	.43	.65	.65	.00
ERECT HEAT EXCHANGER	B28E30 EA	500	200	200	0	200	34	34	0	.40	.17	.17	.00
ERECT HEAT EXCHANGER	B29E30 EA	500	100	100	0	650	383	383	0	1.30	3.83	3.83	.00
**TOTAL HEAT EXCHANGERS		2800	2500	2500	0	1642	1473	1473	0	.59	.59	.59	.00
TREND FORECAST MH		1473	TREND FORECAST PERF		1.25	** PERFORMANCE RATIOS **				1.00	1.25	1.25	.00
ERECT HEAT EXCHANGER	A16E30 UNITS	4500	4600	4600	0	7500	11162	11194	0	1.67	2.43	2.43	.00
**TOTAL HEAT EXCHANGERS		4500	4600	4600	0	7500	11162	11194	0	1.67	2.43	2.43	.00
TREND FORECAST MH		11194	TREND FORECAST PERF		1.46	** PERFORMANCE RATIOS **				1.00	1.46	1.46	.00

GARRARD 00000708

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F O C U S
QUANTITY AND UNIT RATE REPORT
CONDENSOR 23E-9 E31

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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	QUANTITY				MANHOURS				UNIT MANHOURS			
	OF	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

ERECT CONDENSER 23E- 823E31 EA		100	100	100	0	1980	1100	1100	0	19.80	11.00	11.00	.00
**TOTAL CONDENSOR 23E-9		100	100	100	0	1980	1100	1100	0	19.80	11.00	11.00	.00
TREND FORECAST MH	1100		TREND FORECAST PERF		.56		** PERFORMANCE RATIOS **			1.00	.56	.56	.00

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QUANTITY AND UNIT RATE REPORT
FIRED HEATER E40

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT OF	QUANTITY				MANHOURS				UNIT MANHOURS			
		BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

ERECT FIRED HEATERS	B23E40 EA	100	100	100	0	2300	4688	4688	0	23.00	46.88	46.88	.00
**TOTAL	FIRED HEATER	100	100	100	0	2300	4688	4688	0	23.00	46.88	46.88	.00
	TREND FORECAST MH	4688	TREND FORECAST PERF		2.04	** PERFORMANCE RATIOS **				1.00	2.04	2.04	.00
ERECT FIRED HEATERS	A16E40 UNITS	400	400	400	0	7181	29809	29809	0	17.95	74.52	74.52	.00
**TOTAL	FIRED HEATER	400	400	400	0	7181	29809	29809	0	17.95	74.52	74.52	.00
	TREND FORECAST MH	29809	TREND FORECAST PERF		4.15	** PERFORMANCE RATIOS **				1.00	4.15	4.15	.00

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F O C U S
QUANTITY AND UNIT RATE REPORT
PLATFORMG HEATERS E41

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	QUANTITY	MANHOURS	UNIT	MANHOURS
ACCT#	OF	BUDGET	FCST	TO	THIS
	QUANT		#004	DATE	WEEK

ERECT PLTFRM HEATER	A16E41 UNITS	400	400	400	0
		21135	49354	49480	0
		52.84	123.39	123.70	.00
**TOTAL PLATFORMG HEATERS		400	400	400	0
		21135	49354	49480	0
		52.84	123.39	123.70	.00
TREND FORECAST MH	49480	TREND FORECAST PERF	2.34	** PERFORMANCE RATIOS **	1.00
			2.34	2.34	.00

GARRARD 00000711

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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION		UNIT OF	QUANTITY				MANHOURS				UNIT MANHOURS			
ACCT#	QUANT		BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
				#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

INSTALL PUMPS & DRIV	A31E50	EA	200	200	200	0	500	405	405	0	2.50	2.03	2.03	.00
INSTALL PUMPS & DRIV	B09E50	EA	400	300	300	0	290	10	10	0	.73	.03	.03	.00
INSTALL PUMPS & DRIV	B21E50	EA	400	600	600	0	1005	314	314	0	2.51	.52	.52	.00
INSTALL PUMPS & DRIV	B23E50	EA	2200	2000	2000	0	3900	1443	1443	0	1.77	.72	.72	.00
INSTALL PUMPS & DRIV	B28E50	EA	300	0	0	0	120	0	0	0	.40	.00	.00	.00
INSTALL PUMPS & DRIV	B29E50	EA	400	500	500	0	800	229	229	0	2.00	.46	.46	.00
INSTALL PUMPS & DRIV	B32E50	EA	300	300	300	0	1250	1696	1696	0	4.17	5.65	5.65	.00
**TOTAL	PUMPS & DRIVER		4200	3900	3900	0	7865	4097	4097	0	1.87	1.05	1.05	.00
TREND FORECAST MH			4097	TREND FORECAST PERF			.51	** PERFORMANCE RATIOS **			1.00	.51	.51	.00
INSTALL PUMPS & DRIV	A16E50	UNITS	3600	2800	2800	0	5223	5824	5824	0	1.45	2.08	2.08	.00
**TOTAL	PUMPS & DRIVER		3600	2800	2800	0	5223	5824	5824	0	1.45	2.08	2.08	.00
TREND FORECAST MH			5824	TREND FORECAST PERF			1.43	** PERFORMANCE RATIOS **			1.00	1.43	1.43	.00

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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

GARRARD 00000713

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REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
GAS BOOSTER COMP E61

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	QUANTITY				MANHOURS				UNIT MANHOURS			
	OF	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

INSTALL GAS BOOSTER	A16E61 UNITS	200	200	200	0	9900	7573	7573	0	49.50	37.87	37.87	.00
**TOTAL	GAS BOOSTER COMP	200	200	200	0	9900	7573	7573	0	49.50	37.87	37.87	.00
TREND FORECAST MH		7573	TREND FORECAST PERF		.76	** PERFORMANCE RATIOS **				1.00	.76	.76	.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
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F O C U S
QUANTITY AND UNIT RATE REPORT
RECYCLE GAS C/COMP E62

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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT OF QUANT	BUDGET	QUANTITY FCST #004	TO DATE	THIS WEEK	BUDGET	MANHOURS FCST #004	TO DATE	THIS WEEK	BUDGET	UNIT FCST #004	TO DATE	THIS WEEK

RECYCLE GAS CENTRIF A16E62 UNITS		100	100	100	0	6600	4669	4669	0	66.00	46.69	46.69	.00
**TOTAL RECYCLE GAS C/COMP		100	100	100	0	6600	4669	4669	0	66.00	46.69	46.69	.00
TREND FORECAST MH		4669	TREND FORECAST PERF		.71		** PERFORMANCE RATIOS **		1.00		.71	.71	.00

GARRARD 00000715

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

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QUANTITY AND UNIT RATE REPORT
RECYCLE GAS COMPRS E63

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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT OF BUDGET	QUANTITY FCST	TO THIS	BUDGET FCST	TO THIS	MANHOURS BUDGET	FCST	TO THIS	MANHOURS BUDGET	FCST	TO THIS	
ACCT#	QUANT	#004	DATE	WEEK	#004	DATE	WEEK	#004	DATE	WEEK	#004	
RECYCLE GAS COMPRESS A16E63 UNITS	200	200	200	0	3300	2341	2341	0	16.50	11.71	11.71	.00
**TOTAL RECYCLE GAS COMPRS	200	200	200	0	3300	2341	2341	0	16.50	11.71	11.71	.00
TREND FORECAST MH	2341	TREND FORECAST PERF	.71	** PERFORMANCE RATIOS **	1.00	.71	.71	.00				

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
OTHER EQUIPMENT E70

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	QUANTITY				MANHOURS				UNIT MANHOURS			
	OF	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

INSTALL OTHER EQUIPM A16E70 EA		3200	5900	5900	0	1983	1075	1075	0	.62	.18	.18	.00
INSTALL OTHER EQUIPM A31E70 EA		100	0	0	0	100	0	0	0	1.00	.00	.00	.00
INSTALL OTHER EQUIPM B09E70 EA		300	300	300	0	120	160	0	0	.40	.53	.00	.00
INSTALL OTHER EQUIPM B28E70 EA		200	200	200	0	1200	239	231	0	6.00	1.20	1.16	.00
INSTALL OTHER EQUIPM B32E70 EA		600	800	800	0	917	390	390	0	1.53	.49	.49	.00
**TOTAL OTHER EQUIPMENT	.	4400	7200	7200	0	4320	1864	1696	0	.98	.26	.24	.00
TREND FORECAST MH		1886	TREND FORECAST PERF		.30	** PERFORMANCE RATIOS **				1.00	.30	.27	.00
OTHER EQUIPMENT B23E70 UNITS		300	200	200	0	150	74	82	0	.50	.37	.41	.00
**TOTAL OTHER EQUIPMENT		300	200	200	0	150	74	82	0	.50	.37	.41	.00
TREND FORECAST MH		82	TREND FORECAST PERF		.82	** PERFORMANCE RATIOS **				1.00	.74	.82	.00

JOB NO. 14053-000
 ROBINSON REFIARY MODERNZTN PROJ-MOC
 REPORT NO. C38090-58

F O C U S
 QUANTITY AND UNIT RATE REPORT
 PREFAB INST SUPTS J01

DATE 5/24/82
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 PERFORMANCE BASED ON BUDGET
 WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT OF QUANT	QUANTITY				MANHOURS				UNIT MANHOURS			
		BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#		#004	#004	DATE	WEEK	#004	#004	DATE	WEEK	#004	#004	DATE	WEEK

FAB INSTRUMENT SUPPO	A16J01 EA	102	35	35	0	1995	373	373	0	19.56	10.66	10.66	.00
FAB INSTR SUPPORTS	A31J01 EA	12	3	3	0	200	31	31	0	16.67	10.33	10.33	.00
FAB INSTRUMENT SUPPU	B23J01 EA	24	15	15	0	405	91	91	0	16.88	6.07	6.07	.00
FAB INSTR SUPPORTS	B28J01 EA	14	4	4	0	235	18	18	0	16.79	4.50	4.50	.00
FAB INSTRUMENT SUPPO	B29J01 EA	0	0	0	0	0	0	0	0	.00	.00	.00	.00
INSTRUMENT SUPPORTS	C51J01 EA	29	55	55	0	348	194	194	0	12.00	3.53	3.53	.00
INSTRUMENT SUPPORTS	C52J01 EA	24	0	0	0	288	0	0	0	12.00	.00	.00	.00
INSTRUMENT SUPPORTS	C53J01 EA	24	2	2	0	288	8	8	0	12.00	4.00	4.00	.00
INSTRUMENT SUPPORTS	C54J01 EA	24	6	6	0	288	221	221	0	12.00	36.83	36.83	.00
INSTRUMENT SUPPORTS	C55J01 EA	29	3	3	0	348	58	58	0	12.00	19.33	19.33	.00
INSTRUMENT SUPPORTS	C56J01 EA	24	0	0	0	288	0	0	0	12.00	.00	.00	.00
PREFAB INSTR SUPPTS-	C61J01 EA	1	12	12	0	12	83	83	0	12.00	6.92	6.92	.00
PREFAB INSTR SUPPTS-	C62J01 EA	1	14	14	0	12	56	56	0	12.00	4.00	4.00	.00
PREFAB INSTR SUPPTS-	C63J01 EA	1	18	18	0	12	101	101	0	12.00	5.61	5.61	.00
PREFAB INSTR SUPPTS-	C64J01 EA	1	21	21	0	12	96	96	0	12.00	4.57	4.57	.00
PREFAB INSTR SUPPTS-	C65J01 EA	1	25	25	0	12	86	86	0	12.00	3.44	3.44	.00
PREFAB INSTR SUPPTS-	C66J01 EA	1	0	0	0	12	0	0	0	12.00	.00	.00	.00
ALLEN-MODIFY INSTR S	S29J01 EA	13	3	3	0	215	50	12	0	16.54	16.67	4.00	.00
**TOTAL PREFAB INST SUPTS		325	216	216	0	4970	1466	1428	0	15.29	6.79	6.61	.00
TREND FORECAST MH		1428	TREND FORECAST PERF		.48	** PERFORMANCE RATIOS **		1.00	.49	.48	.00		

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MUC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
PREASSEMBLE XMITRS J10

DATE 5/24/82
PAGE 16

PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	QUANTITY				MANHOURS				UNIT MANHOURS			
ACCT#	QUANT	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
			#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

PRE ASMB TRANSM&TRAN C51J10 EA		333	352	352	0	1303	775	775	0	3.91	2.20	2.20	.00
PRE ASMB TRANSM&TRAN C52J10 EA		232	246	246	0	902	431	431	0	3.89	1.75	1.75	.00
PRE ASMB TRANSM&TRAN C53J10 EA		129	249	249	0	419	299	299	0	3.25	1.20	1.20	.00
PRE ASMB TRANSM&TRAN C54J10 EA		304	210	210	0	1209	224	224	0	3.98	1.07	1.07	.00
PRE ASMB TRANSM&TRAN C55J10 EA		157	172	172	0	617	140	140	0	3.93	.81	.81	.00
PRE ASMB TRANSM&TRAN C56J10 EA		257	184	184	0	1062	175	175	0	4.13	.95	.95	.00
**TOTAL PREASSEMBLE XMITRS		1412	1413	1413	0	5512	2044	2044	0	3.90	1.45	1.45	.00
TREND FORECAST MH	2044	TREND FORECAST PERF	.38	** PERFORMANCE RATIOS **	1.00	.38	.38	.00					

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
INSTALL XMITTERS J11

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION		UNIT	QUANTITY				MANHOURS				UNIT MANHOURS			
ACCT#	QUANT	OF	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS

				#004	DATE	WEEK		#004	DATE	WEEK		#C04	DATE	WEEK
FIELD MOUNTED INSTRU	A16J11	EA	177	203	203	0	8179	4109	4109	0	46.21	20.24	20.24	.00
FIELD MOUNTED INSTRM	A31J11	EA	20	5	5	0	524	101	101	0	26.20	20.20	20.20	.00
FIELD MOUNTED INSTRU	B09J11	EA	0	0	0	0	0	41	41	0	.00	.00	.00	.00
FIELD MOUNTED INSTRU	B23J11	EA	40	71	71	0	1282	1016	1016	0	32.05	14.31	14.31	.00
FIELD MOUNTED INSTRU	B28J11	EA	17	12	12	0	516	144	144	0	30.35	12.00	12.00	.00
INSTRUMENTS	B29J11	EA	0	0	0	0	0	8	8	0	.00	.00	.00	.00
FIELD MOUNTED INSTRU	B32J11	EA	0	0	0	0	0	4	4	0	.00	.00	.00	.00
INSTALL XMITTERS	B99J11	EA	3	10	10	0	102	80	80	0	34.00	8.00	8.00	.00
FIELD MOUNTED INSTRU	C51J11	EA	192	98	98	0	7804	1540	1540	0	40.65	15.71	15.71	.00
FIELD MOUNTED INSTRU	C52J11	EA	132	0	0	0	5370	136	136	0	40.68	.00	.00	.00
FIELD MOUNTED INSTRU	C53J11	EA	48	1	1	0	2081	250	250	0	43.35	250.00	250.00	.00
FIELD MOUNTED INSTRU	C54J11	EA	113	0	0	0	4508	492	492	0	39.89	.00	.00	.00
FIELD MOUNTED INSTRU	C55J11	EA	90	3	3	0	3656	264	264	0	40.62	88.00	88.00	.00
FIELD MOUNTED INSTRU	C56J11	EA	171	0	0	0	6425	318	318	0	37.57	.00	.00	.00
INSTALL XMITTERS -	C61J11	EA	2	109	109	0	79	893	893	0	39.50	8.19	8.19	.00
INSTALL XMITTERS -	C62J11	EA	2	147	147	0	79	1246	1246	0	39.50	8.48	8.48	.00
INSTALL XMITTERS -	C63J11	EA	10	184	184	0	395	1673	1673	0	39.50	9.09	9.09	.00
INSTALL XMITTERS -	C64J11	EA	1	139	139	0	38	1333	1333	0	38.00	9.59	9.59	.00
INSTALL XMITTERS -	C65J11	EA	2	94	94	0	79	513	513	0	39.50	5.46	5.46	.00
INSTALL XMITTERS -	C66J11	EA	2	102	102	0	79	1144	1144	0	39.50	11.22	11.22	.00
MORRIS-INSTALL XMITT	S09J11	EA	12	27	27	0	361	628	207	0	30.08	23.26	7.67	.00
ALLEN-INSTALL TRANSM	S29J11	EA	19	18	18	0	608	544	243	0	32.00	30.22	13.50	.00
HOKE-INSTALL TRANSMI	S32J11	EA	4	3	3	0	134	101	122	0	33.50	33.67	40.67	.00
**TOTAL INSTALL XMITTERS			1057	1226	1226	0	42299	16578	15877	0	40.02	13.52	12.95	.00
TREND FORECAST MH			15877	TREND FORECAST PERF			.33	** PERFORMANCE RATIOS **			1.00	.34	.33	.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MUC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
REMOV&INSTALL INST J15

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION				UNIT	QUANTITY				MANHOURS				UNIT MANHOURS							
				OF	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS				
ACCT#				QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#C04	DATE	WEEK				

INSTALL	MINOR	INSTRU	A16J15	EA	779	900	900	0	7626	2850	2817	10	9.79	3.17	3.13	.00				
INSTALL	MINOR	INSTRM	A31J15	EA	21	4	4	0	105	13	13	0	5.00	3.25	3.25	.00				
INSTALL	MINOR	INSTRU	B09J15	EA	0	0	0	0	0	5	5	0	.00	.00	.00	.00				
INSTALL	MINOR	INSTRU	B23J15	EA	231	186	186	0	1679	1083	1083	0	7.27	5.82	5.82	.00				
INSTALL	MINOR	INSTRU	B28J15	EA	86	48	48	0	729	176	176	0	8.48	3.67	3.67	.00				
INSTRUMENTS				B29J15	EA	0	0	0	0	25	25	0	.00	.00	.00	.00				
INSTALL	MINOR	INSTRU	B32J15	EA	0	0	0	0	0	44	44	0	.00	.00	.00	.00				
INSTALL	MINOR	INSTRU	B99J15	EA	9	21	21	0	70	45	45	0	7.78	2.14	2.14	.00				
INSTALL	MINOR	INSTRU	C51J15	EA	110	37	37	0	227	140	140	0	2.06	3.78	3.78	.00				
INSTALL	MINOR	INSTRU	C53J15	EA	37	0	0	0	83	0	0	0	2.24	.00	.00	.00				
INSTALL	MINOR	INSTRU	C54J15	EA	106	6	6	0	214	18	18	0	2.02	3.00	3.00	.00				
INSTALL	MINOR	INSTRU	C55J15	EA	64	8	8	0	149	40	40	0	2.33	5.00	5.00	.00				
INSTALL	MINOR	INSTRU	C56J15	EA	109	21	21	0	248	65	65	0	2.28	3.10	3.10	.00				
INSTALL	MINOR	INSTR-	C61J15	EA	20	9	9	0	41	8	8	0	2.05	.89	.89	.00				
INSTALL	MINOR	INSTR-	C62J15	EA	87	51	51	0	190	54	54	0	2.18	1.06	1.06	.00				
INSTALL	MINOR	INSTR-	C63J15	EA	4	44	44	0	9	109	109	0	2.25	2.48	2.48	.00				
INSTALL	MINOR	INSTR-	C64J15	EA	1	117	117	0	2	128	128	0	2.00	1.09	1.09	.00				
INSTALL	MINOR	INSTR-	C65J15	EA	3	31	31	0	7	30	30	0	2.33	.97	.97	.00				
INSTALL	MINOR	INSTR-	C66J15	EA	4	22	22	0	10	32	32	0	2.50	1.45	1.45	.00				
MORRIS-INSTALL MIN I				S09J15	EA	117	66	66	0	805	352	53	0	6.88	5.33	.80	.00			
ALLEN-INSTALL MINOR				S29J15	EA	35	58	58	0	136	169	137	0	3.89	2.91	2.36	.00			
HUKE-INSTALL MINOR I				S32J15	EA	29	50	50	0	251	493	55	0	8.66	9.86	1.10	.00			
**TOTAL REMOV&INSTALL INST					1852	1679	1679	0	12581	5879	5077	10	6.79	3.50	3.02	.00				
TREND FORECAST MH					5077	TREND FORECAST PERF					.40	** PERFORMANCE RATIOS **					1.00	.47	.40	.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
INSTALL P/I TRNDRS J17

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	QUANTITY				MANHOURS				UNIT MANHOURS			
OF	BUCGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	
ACCT#	QUANT	#004	DATE	WEEK	#004	DATE	WEEK	#004	DATE	#004	DATE	WEEK	

INSTALL P/I TRANSDUC C51J17 EA	30	32	32	0	750	235	235	0	25.00	7.34	7.34	.00	
INSTALL P/I TRANSDUC C53J17 EA	18	0	0	0	450	0	0	0	25.00	.00	.00	.00	
INSTALL P/I TRANSDUC C54J17 EA	24	0	0	0	600	0	0	0	25.00	.00	.00	.00	
INSTALL P/I TRANSDUC C55J17 EA	6	0	0	0	150	0	0	0	25.00	.00	.00	.00	
INSTALL P/I TRANSDUC C56J17 EA	6	7	7	0	150	123	123	0	25.00	17.57	17.57	.00	
INSTALL P/I TRANSDR- C61J17 EA	1	0	0	0	25	0	0	0	25.00	.00	.00	.00	
INSTALL P/I TRANSDR- C62J17 EA	19	21	21	0	475	467	467	0	25.00	22.24	22.24	.00	
INSTALL P/I TRANSDR- C63J17 EA	1	32	32	0	25	308	308	0	25.00	9.63	9.63	.00	
INSTALL P/I TRANSDR- C64J17 EA	1	19	19	0	25	133	133	0	25.00	7.00	7.00	.00	
INSTALL P/I TRANSDR- C65J17 EA	1	8	8	0	25	123	123	0	25.00	15.38	15.38	.00	
INSTALL P/I TRANSDR- C66J17 EA	1	0	0	0	25	0	0	0	25.00	.00	.00	.00	
**TOTAL INSTALL P/I TRNDRS	108	119	119	0	2700	1389	1389	0	25.00	11.67	11.67	.00	
TREND FORECAST MH	1389	TREND FORECAST PERF	.47	** PERFORMANCE RATIOS **	1.00	.47	.47	.00					

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MUC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
INSTALL I/P TRNDRS J19

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	QUANTITY				MANHOURS				UNIT MANHOURS			
ACCT#	QUANT	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
			#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

INSTALL I/P TRANSDUC	C51J19 EA	138	57	57	0	966	140	140	0	7.00	2.46	2.46	.00
INSTALL I/P TRANSDUC	C53J19 EA	70	0	0	0	490	0	0	0	7.00	.00	.00	.00
INSTALL I/P TRANSDUC	C54J19 EA	74	5	5	0	479	109	109	0	6.47	21.80	21.80	.00
INSTALL I/P TRANSDUC	C55J19 EA	64	0	0	0	448	0	0	0	7.00	.00	.00	.00
INSTALL I/P TRANSDUC	C56J19 EA	95	2	2	0	665	4	4	0	7.00	2.00	2.00	.00
INSTALL I/P TRANSDR-	C61J19 EA	1	69	69	0	7	155	155	0	7.00	2.25	2.25	.00
INSTALL I/P TRANSDR-	C62J19 EA	98	105	105	0	686	176	176	0	7.00	1.68	1.68	.00
INSTALL I/P TRANSDR-	C63J19 EA	1	111	111	0	7	644	644	0	7.00	5.80	5.80	.00
INSTALL I/P TRANSDR-	C64J19 EA	6	115	115	0	38	320	320	0	6.33	2.78	2.78	.00
INSTALL I/P TRANSDR-	C65J19 EA	1	63	63	0	7	172	172	0	7.00	2.73	2.73	.00
INSTALL I/P TRANSDR-	C66J19 EA	1	83	83	0	7	245	245	0	7.00	2.95	2.95	.00
**TOTAL INSTALL I/P TRNDRS		549	610	610	0	3800	1965	1965	0	6.92	3.22	3.22	.00
TREND FORECAST MH		1965	TREND FORECAST PERF		.47	** PERFORMANCE RATIOS **		1.00	.47	.47	.00		

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
MAIN CONTROL PANEL J21

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT OF	BUDGET	QUANTITY FCST	TO DATE	THIS WEEK	BUDGET	MANHOURS FCST	TO DATE	THIS WEEK	BUDGET	UNIT FCST	TO DATE	THIS WEEK
ACCT#	QUANT		#004				#004				#004		

MAIN CONTROL ROOM PA C50J21 EA		6	6	6	0	626	555	555	0	104.33	92.50	92.50	.00
**TOTAL MAIN CONTROL PANEL		6	6	6	0	626	555	555	0	104.33	92.50	92.50	.00
TREND FORECAST MH		555	TREND FORECAST PERF		.39		** PERFORMANCE RATIOS **			1.00	.89	.89	.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
SATELLITE RACKS J22

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT OF	QUANTITY				MANHOURS				UNIT MANHOURS			
		BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

1DC I/O RACK	A16J22 UNITS	2	300	300	0	3	276	276	0	1.50	.92	.92	.00
CONTRL CONSL SATLITE	C51J22 UNITS	100	100	100	0	148	179	179	0	1.48	1.79	1.79	.00
CONSOLE SATELLITE RA	C52J22 UNITS	100	100	100	0	148	256	256	0	1.48	2.56	2.56	.00
CONSOLE SATELLITE RA	C53J22 UNITS	100	200	200	0	148	127	127	0	1.48	.64	.64	.00
CONSOLE SATELLITE RA	C54J22 UNITS	100	110	110	0	283	163	163	0	2.83	1.48	1.48	.00
CONSOLE SATELLITE RA	C55J22 UNITS	300	300	300	0	444	225	225	0	1.48	.75	.75	.00
**TOTAL	SATELLITE RACKS	702	1110	1110	0	1174	1226	1226	0	1.67	1.10	1.10	.00
TREND FORECAST MH		1226	TREND FORECAST PERF		.68	** PERFORMANCE RATIOS **				1.00	.68	.68	.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
PROCESS COMPUTER J26

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT OF BUDGET	QUANTITY FCST TO THIS	MANHOURS BUDGET FCST TO THIS	UNIT MANHOURS BUDGET FCST TO THIS
ACCT#	QUANT	#004 DATE WEEK	#004 DATE WEEK	#004 DATE WEEK

PROCESS CONTROL COMP C50J26 UNITS	100	70 70 0	100 283 283 0	1.00 4.04 4.04 .00
**TOTAL PROCESS COMPUTER	100	70 70 0	100 283 283 0	1.00 4.04 4.04 .00
TREND FORECAST MH	283	TREND FORECAST PERF 4.04	** PERFORMANCE RATIOS ** 1.00 4.04 4.04 .00	

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
LOCAL CONTROL PANL J31

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT OF	BUDGET	QUANTITY FCST	TO THIS	BUDGET	FCST	TO THIS	BUDGET	FCST	TO THIS
ACCT#	QUANT		#004	DATE		#004	DATE		#004	DATE

LOCAL CONTROL PANEL A16J31	UNITS	100	1900	1900	0	140	768	792	24	1.40
LOCAL CONTROL PANELS B09J31	UNITS	0	0	0	0	0	0	0	0	.00
LOCAL CONTROL PANEL B23J31	UNITS	100	100	100	0	36	16	16	0	.36
LOCAL CONTROL PANELS B32J31	UNITS	100	100	100	0	35	35	0	0	.35
LOCAL CONTROL PANELS B99J31	UNITS	100	0	0	0	35	0	0	0	.35
LOCAL CONTROL PANEL C56J31	UNITS	100	100	100	0	100	88	88	0	1.00
MORRIS LOCAL CONTROL S09J31	UNITS	100	100	100	0	35	35	0	0	.35
HOKE-LOCAL CONTROL P S32J31	UNITS	0	0	0	0	0	0	0	0	.00
**TOTAL LOCAL CONTROL PANL		600	2300	2300	0	381	942	896	24	.64
TREND FORECAST MH		936	TREND FORECAST PERF		.33	** PERFORMANCE RATIOS **		1.00	.33	.31

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
INSTRUMENT SHELTER J50

DATE 5/24/82
PAGE 25
PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	OF	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT			#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

INSTRUMENT SHELTERS	A16J50	EA	147	32	32	0	2627	217	233	16	17.87	6.78	7.28	.00
INSTRUMENT SHELTERS	A31J50	EA	27	4	4	0	355	32	32	0	13.15	8.00	8.00	.00
INSTRUMENT SHELTERS	B09J50	EA	0	0	0	0	0	23	23	0	.00	.00	.00	.00
INSTRUMENT SHELTERS	B23J50	EA	23	22	22	0	768	617	617	0	33.39	28.05	28.05	.00
INSTRUMENT SHELTERS	B28J50	EA	16	8	8	0	377	147	147	0	23.56	18.38	18.38	.00
INSTRUMENTS	B29J50	EA	0	0	0	0	0	10	10	0	.00	.00	.00	.00
INSTRUMENT SHELTERS	B99J50	EA	1	2	2	0	28	8	8	0	28.00	4.00	4.00	.00
INSTRUMENT SHELTERS	C51J50	EA	173	69	69	0	3460	378	378	0	20.00	5.48	5.48	.00
INSTRUMENT SHELTERS	C53J50	EA	50	0	0	0	1000	0	0	0	20.00	.00	.00	.00
INSTRUMENT SHELTERS	C54J50	EA	102	0	0	0	2040	8	8	0	20.00	.00	.00	.00
INSTRUMENT SHELTERS	C55J50	EA	82	3	3	0	1640	127	127	0	20.00	42.33	42.33	.00
INSTRUMENT SHELTERS	C56J50	EA	126	19	19	0	2520	310	310	0	20.00	16.32	16.32	.00
MOUNT INSTR SHELTER-	C61J50	EA	1	3	3	0	20	0	0	0	20.00	.00	.00	.00
MOUNT INSTR SHELTER-	C62J50	EA	121	18	18	0	2420	216	216	0	20.00	12.00	12.00	.00
MOUNT INSTR SHELTER-	C63J50	EA	2	15	15	0	40	94	94	0	20.00	6.27	6.27	.00
MOUNT INSTR SHELTER-	C64J50	EA	1	29	29	0	20	221	221	0	20.00	7.62	7.62	.00
MOUNT INSTR SHELTER-	C65J50	EA	1	17	17	0	20	59	59	0	20.00	3.47	3.47	.00
MOUNT INSTR SHELTER-	C66J50	EA	1	18	18	0	20	113	113	0	20.00	6.28	6.28	.00
MORRIS MOUNT INST SH	S09J50	EA	1	13	13	0	20	130	34	0	20.00	10.00	2.62	.00
ALLEN-MOUNT INSTR SH	S29J50	EA	21	3	3	0	375	80	30	0	17.86	26.67	10.00	.00
HOKE-MOUNT INST SHEL	S32J50	EA	2	2	2	0	42	42	33	0	21.00	21.00	16.50	.00
**TOTAL INSTRUMENT SHELTER			898	277	277	0	17792	2832	2693	16	19.81	10.22	9.72	.00
TREND FORECAST MH			2727	TREND FORECAST PERF		.47	** PERFORMANCE RATIOS **				1.00	.49	.47	.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
ANALYZER&PACKAGE J60

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION		UNIT	QUANTITY				MANHOURS				UNIT MANHOURS			
ACCT#	QUANT	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	

ANALYZER & CONTROL P	A16J60 EA	83	15	15	0	7266	627	645	0	87.54	41.80	43.00	.00	
ANALYSER & CONTROL P	B23J60 EA	15	1	1	0	140	8	8	0	9.33	8.00	8.00	.00	
ANALYSER & CONTROL P	B28J60 EA	2	0	0	0	355	0	0	0	177.50	.00	.00	.00	
ANALYSER & CONTROL P	B29J60 EA	7	0	0	0	155	0	0	0	22.14	.00	.00	.00	
ANALYZER PACKAGES	B32J60 EA	0	0	0	0	0	0	0	0	.00	.00	.00	.00	
ALLEN-ANALYZER	S29J60 EA	0	0	0	0	0	0	0	0	.00	.00	.00	.00	
HOKE-ANALYZERS	S32J60 EA	3	3	3	0	280	280	98	0	93.33	93.33	32.67	.00	
**TOTAL ANALYZER&PACKAGE		110	19	19	0	8196	915	751	0	74.51	48.16	39.53	.00	
TREND FORECAST MH		751	TREND FORECAST PERF		.47	** PERFORMANCE RATIOS **				1.00	.57	.47	.00	

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
INSTR TUBE&PIPE J70

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION		UNIT	QUANTITY				MANHOURS				UNIT MANHOURS			
ACCT#	QUANT	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	
			#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK	

INSTALL INSTR TUBE&P	A31J70 LF	200	190	190	0	185	89	89	0	.93	.47	.47	.00	
INSTALL INST TUBE &	B09J70 LF	0	0	0	0	0	0	0	0	.00	.00	.00	.00	
INSTALL INSTR TUBE&P	B23J70 LF	1180	1600	1600	0	730	1627	1643	0	.62	1.02	1.03	.00	
INSTALL INSTR TUBE&P	B28J70 LF	752	600	600	0	686	214	214	0	.91	.36	.36	.00	
INSTRUMENTS	B29J70 LF	100	379	379	0	86	139	139	0	.86	.37	.37	.00	
INSTRUMENT AIR TUBE&	B32J70 LF	0	0	0	0	0	0	0	0	.00	.00	.00	.00	
INST AIR TUBE & PIPE	B99J70 LF	48	650	650	0	44	149	149	0	.92	.23	.23	.00	
INST INSTR TUBE & PI	C51J70 LF	4177	470	470	0	1810	256	256	0	.43	.54	.54	.00	
INST INSTR TUBE & PI	C53J70 LF	1598	16	16	0	690	0	0	0	.43	.00	.00	.00	
INST INSTR TUBE & PI	C54J70 LF	4200	0	0	0	1747	137	137	0	.42	.00	.00	.00	
INST INSTR TUBE & PI	C55J70 LF	1975	0	0	0	859	0	0	0	.43	.00	.00	.00	
PNEUMATIC TUBING -	C61J70 LF	23	50	50	0	10	42	42	0	.43	.84	.84	.00	
PNEUMATIC TUBING -	C62J70 LF	3000	549	549	0	1300	84	84	0	.43	.15	.15	.00	
PNEUMATIC TUBING -	C63J70 LF	598	820	820	0	258	163	163	0	.43	.20	.20	.00	
PNEUMATIC TUBING -	C64J70 LF	20	1957	1957	0	9	219	219	0	.45	.11	.11	.00	
PNEUMATIC TUBING -	C65J70 LF	25	215	215	0	11	53	53	0	.44	.25	.25	.00	
PNEUMATIC TUBING -	C66J70 LF	2940	426	426	0	1280	52	52	0	.44	.12	.12	.00	
MORRIS-INST AIR TUBE	S09J70 LF	1000	1200	1200	0	766	689	546	0	.77	.57	.46	.00	
ALLEN-INST AIR TUBE	S29J70 LF	710	776	776	0	609	700	318	0	.86	.90	.41	.00	
HUKE-INST AIR TUBE &	S32J70 LF	110	560	560	0	98	445	459	0	.89	.79	.82	.00	
**TOTAL	INSTR TUBE&PIPE	22656	10458	10458	0	11178	5058	4563	0	.49	.48	.44	.00	
TREND FORECAST MH		4567	TREND FORECAST PERF		.68	** PERFORMANCE RATIOS **				1.00	.75	.68	.00	

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
INSTL INTRU TB&PIP J71

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	OF	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT			#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
INSTL AIR TUBING	A16J71	LF	1574	3100	3100	0	670	1361	1423	0	.43	.44	.46	.00
**TOTAL	INSTL INTRU TB&PIP		1574	3100	3100	0	670	1361	1423	0	.43	.44	.46	.00
TREND FORECAST MH			1423	TREND FORECAST PERF		1.08		** PERFORMANCE RATIOS **		1.00	1.03	1.08	.00	

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
INST AIR SUBHEADER J74

DATE 5/24/82
PAGE 29
PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT OF	BUDGET	QUANTITY FCST	TO DATE	THIS WEEK	BUDGET	QUANTITY FCST	TO DATE	THIS WEEK	BUDGET	UNIT FCST	TO DATE	THIS WEEK
ACCT#	QUANT		#004				#004				#004		

INST AIR SUB-HEADER A16J74 LF		3383	7040	7040	0	2365	5224	5375	0	.70	.74	.76	.00
INST AIR SUBHEADER C53J74 LF		2	1505	1505	0	1	414	414	0	.50	.28	.28	.00
INST AIR SUBHEADER C63J74 LF		2	645	645	0	1	86	86	0	.50	.13	.13	.00
**TOTAL INST AIR SUBHEADER						2367	5724	5875	0				
TREND FORECAST MH		5875	TREND FORECAST PERF		.98	** PERFORMANCE RATIOS **		1.00		.95	.98	.00	

JOB NO. 14053-000
ROBINSON REFINERY MODERNIZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
LOOP CHECK J81

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION		UNIT	QUANTITY				MANHOURS				UNIT MANHOURS			
ACCT#	QUANT	OF	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS

LOOP CHECK & CALIBRA	A31J81	EA	44	7	7	3	105	11	4	0	2.39	1.57	.57	.00
LOOP CHECK	B23J81	EA	32	134	134	0	400	883	883	0	12.50	6.59	6.59	.00
LOOP CHECK	B28J81	EA	22	29	29	0	194	92	92	0	8.82	3.17	3.17	.00
LOOP CHECK	B29J81	EA	14	29	29	0	140	348	348	0	10.00	12.00	12.00	.00
LOOP CHECK	B32J81	EA	9	29	29	0	84	124	124	0	9.33	4.28	4.28	.00
LOOP CHECK	C51J81	EA	349	430	430	0	2559	1232	1232	0	7.33	2.87	2.87	.00
LOOP CHECK	- C61J81	EA	3	221	221	0	22	1720	1720	0	7.33	7.78	7.78	.00
LOOP CHECK	- C63J81	EA	106	444	444	0	778	2007	2007	0	7.34	4.52	4.52	.00
**TOTAL LOOP CHECK			579	1323	1323	3	4282	6417	6410	0	7.40	4.85	4.85	.00
TREND FORECAST MH			6410	TREND FORECAST PERF		.61	** PERFORMANCE RATIOS **				1.00	.61	.61	.00
LOOP CHECK	A16J81	LOOPS	164	683	526	82	1645	3175	3732	566	10.03	4.65	7.10	6.90
LOOP CHECK	B09J81	LOOPS	1	25	25	0	4	105	105	0	4.00	4.20	4.20	.00
LOOP CHECK	B99J81	LOOPS	5	21	21	0	49	17	17	0	9.80	.81	.81	.00
LOOP CHECK	- C62J81	LOOPS	248	390	390	0	1819	1350	1350	0	7.33	3.46	3.46	.00
LOOP CHECK	- C64J81	LOOPS	331	442	461	0	2427	2353	2353	0	7.33	5.32	5.10	.00
LOOP CHECK	- C65J81	LOOPS	168	468	468	0	1232	1563	1563	0	7.33	3.34	3.34	.00
LOOP CHECK	- C66J81	LOOPS	297	486	486	0	2178	1405	1405	0	7.33	2.89	2.89	.00
**TOTAL LOOP CHECK			1214	2515	2377	82	9354	9768	10525	566	7.71	3.96	4.43	6.90
TREND FORECAST MH			11663	TREND FORECAST PERF		.57	** PERFORMANCE RATIOS **				1.00	.49	.56	.69

JOB NO. 14053-C00
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
CALIBRATION&TESTNG J82

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT OF QUANT	BUDGET	FCST #004	TO DATE	THIS WEEK	BUDGET	FCST #004	TO DATE	THIS WEEK	BUDGET	FCST #004	TO DATE	THIS WEEK

CALIBRATION & TESTIN A16J82 EA		1077	645	634	59	6515	3286	2709	114	6.05	5.09	4.27	1.93
CALIBRATION & TESTIN A31J82 EA		1	7	7	1	6	10	4	0	6.00	1.43	.57	.00
TEST & STORE B09J82 EA		149	22	22	0	345	85	85	0	2.32	3.86	3.86	.00
CALIBRATION & TESTIN B23J82 EA		310	80	80	0	1748	639	639	0	5.64	7.99	7.99	.00
CALIBRATION & TESTIN B28J82 EA		128	12	12	0	737	30	30	0	5.76	2.50	2.50	.00
CALIBRATION & TESTIN B29J82 EA		72	18	18	0	459	87	87	0	6.38	4.83	4.83	.00
TEST-CALIBRATE-STORE B32J82 EA		43	10	10	0	271	25	25	0	6.30	2.50	2.50	.00
TEST-STORE-CALIBRATE B99J82 EA		4	8	8	0	23	11	11	0	5.75	1.38	1.38	.00
TEST&STORE&CALIB INS C51J82 EA		427	403	403	0	1806	729	729	0	4.23	1.81	1.81	.00
TEST&STORE&CALIB INS C52J82 EA		282	302	302	0	1160	536	536	0	4.11	1.77	1.77	.00
TEST&STORE&CALIB INS C53J82 EA		356	391	391	0	1552	652	652	0	4.36	1.67	1.67	.00
TEST&STORE&CALIB INS C54J82 EA		313	352	352	0	1318	473	473	0	4.21	1.34	1.34	.00
TEST&STORE&CALIB INS C55J82 EA		208	201	201	0	852	353	353	0	4.10	1.76	1.76	.00
TEST&STORE&CALIB INS C56J82 EA		272	253	253	0	1142	716	716	0	4.20	2.83	2.83	.00
**TOTAL CALIBRATION&TESTNG		3642	2704	2693	60	17934	7632	7049	114	4.92	2.82	2.62	1.90
TREND FORECAST MH		7087	TREND FORECAST PERF		.56	** PERFORMANCE RATIOS **		1.00		.60		.56	.31

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
DISPOSAL EXIST INS J95

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	QUANTITY				MANHOURS				UNIT MANHOURS			
	OF	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

EMERGENCY SD REDUNDA A16J95 UNITS		100	100	100	0	1177	453	453	0	11.77	4.53	4.53	.00
EMERGENCY SD REDUNDA B23J95 UNITS		100	0	0	0	449	0	0	0	4.49	.00	.00	.00
EMERGENCY SD REDUNDA B28J95 UNITS		100	0	0	0	660	0	0	0	6.60	.00	.00	.00
EMERGENCY SD REDUNDA B29J95 UNITS		100	0	0	0	75	0	0	0	.75	.00	.00	.00
**TOTAL DISPOSAL EXIST INS		400	100	100	0	2361	453	453	0	5.90	4.53	4.53	.00
TREND FORECAST MH		453	TREND FORECAST PERF		.38	** PERFORMANCE RATIOS **				1.00	.38	.38	.00

JOB NO. 14053-000
 ROBINSON REFINRY MODERNZTN PROJ-MOC
 REPORT NO. C38090-58

F O C U S
 QUANTITY AND UNIT RATE REPORT
 STEAM TRACE PIP&SH L10

DATE 5/24/82
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 PERFORMANCE BASED ON BUDGET
 WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	QUANTITY				MANHOURS				UNIT MANHOURS			
	OF	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

S/B 6 STM.TRACE SUBH A06L10 LF		10	402	402	0	11	589	589	0	1.10	1.47	1.47	.00
S/B 1 STM.TRACE SUBH A11L10 LF		10	357	357	0	11	739	739	0	1.10	2.07	2.07	.00
S/B 2 STM.TRACE SUBH A12L10 LF		10	1432	1432	0	11	2811	2811	0	1.10	1.96	1.96	.00
S/B 3 STM.TRACE SUBH A13L10 LF		10	449	449	0	11	1115	1115	0	1.10	2.48	2.48	.00
S/B 4&7 STM.TRACE SUB A14L10 LF		10	1155	1155	0	11	1620	1620	0	1.10	1.40	1.40	.00
S/B 5 STM.TRACE SUBH A15L10 LF		10	345	345	0	11	516	516	0	1.10	1.50	1.50	.00
S/B 8 STM.TRACE SUBH A18L10 LF		10	1489	1488	0	11	3617	3617	0	1.10	2.43	2.43	.00
S/B 9 STM.TRACE SUBH A19L10 LF		10	383	383	0	11	523	523	0	1.10	1.37	1.37	.00
STEAM TRACE PIPE-SUB B09L10 LF		0	0	0	0	0	40	40	0	.00	.00	.00	.00
STEAM TRACE PIPE-SUB B23L10 LF		5	1279	1279	0	7	3147	3147	0	1.40	2.46	2.46	.00
STEAM TRACE PIPE-SUB B28L10 LF		2	412	412	0	3	639	639	0	1.50	1.55	1.55	.00
STEAM TRACE PIPE-SUB B29L10 LF		0	0	0	0	0	47	47	0	.00	.00	.00	.00
STEAM TRACE PIPE-SUB B32L10 LF		0	0	0	0	0	1	0	0	.00	.00	.00	.00
STEAM TRACE PIPE-SUB B99L10 LF		33	1093	1093	0	55	2678	2678	0	1.67	2.45	2.45	.00
MORRIS-STEAM TRACE P S09L10 LF		3	1461	1461	0	5	1142	1290	0	1.67	.78	.88	.00
ALLENSTEAM TRACE PIP S29L10 LF		52	211	211	0	69	434	217	0	1.33	2.06	1.03	.00
HOKE--STEAM TRACE PI S32L10 LF		32	347	347	0	41	439	26	0	1.28	1.27	.07	.00
**TOTAL STEAM TRACE PIP&SH						268	20097	19614	0				
TREND FORECAST MH		19616	TREND FORECAST PERF		1.40	** PERFORMANCE RATIOS **				1.00	1.44	1.40	.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
SPL 2 IN&M PIPE L11

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION		UNIT	QUANTITY				MANHOURS				UNIT MANHOURS			
		OF	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#		QUANT	#004	#004	DATE	WEEK	#004	#004	DATE	WEEK	#004	#004	DATE	WEEK

SMALL BORE CS PIPE S	A06L11	LF	689	794	794	0	524	1375	1375	0	.76	1.73	1.73	.00
SMALL BORE CS PIPE S	A11L11	LF	2031	2169	2169	0	2267	6726	6726	0	1.12	3.10	3.10	.00
SMALL BORE CS PIPE S	A12L11	LF	5395	5267	5267	0	5867	19410	19608	151	1.09	3.69	3.72	.00
SB CS PIPE-RACK	A13L11	LF	3100	3189	3189	0	8302	6785	6785	0	2.68	2.13	2.13	.00
SMALL BORE CS PIPE S	A14L11	LF	2555	2496	2496	0	2512	9357	9357	0	.98	3.75	3.75	.00
SMALL BORE CS PIPE S	A15L11	LF	2852	5248	5248	0	2675	18199	17639	29	.94	3.47	3.36	.00
INST CS PIPE 2IN & U	A16L11	LF	6790	0	0	0	7609	0	0	0	1.12	.00	.00	.00
SMALL BORE CS PIPE S	A17L11	LF	1343	1607	1607	0	1867	3371	3371	0	1.39	2.10	2.10	.00
SMALL BORE CS PIPE S	A18L11	LF	6978	6732	6732	0	8722	21226	22072	0	1.25	3.15	3.28	.00
SMALL BORE CS PIPE S	A19L11	LF	3036	2113	2108	0	2604	5355	5355	0	.86	2.53	2.54	.00
INST CS PIPE 2IN & U	A21L11	LF	33	1636	1636	0	55	2203	2203	0	1.67	1.35	1.35	.00
INST CS SPLD 2IN & U	B09L11	LF	0	0	0	0	0	26	26	0	.00	.00	.00	.00
INST CS PIPE 2IN & U	B21L11	LF	0	0	0	0	0	0	0	0	.00	.00	.00	.00
INST CS PIPE 2IN & U	B23L11	LF	5168	3052	3053	0	5665	8711	8711	0	1.10	2.85	2.85	.00
INST CS PIPE 2IN & U	B24L11	LF	10	2031	2031	0	11	4689	4689	0	1.10	2.31	2.31	.00
INST CS PIPE 2IN & U	B25L11	LF	10	1542	1542	0	11	2053	2053	0	1.10	1.33	1.33	.00
INST CS PIPE 2IN & U	B28L11	LF	4483	3083	3083	0	5058	6557	6557	0	1.13	2.13	2.13	.00
INST CS PIPE 2IN & U	B29L11	LF	263	83	83	0	241	131	131	0	.92	1.58	1.58	.00
INST CS PIPE 2IN & U	B32L11	LF	0	0	0	0	0	81	81	0	.00	.00	.00	.00
INST CS PIPE 2IN & U	B35L11	LF	170	0	0	0	180	0	0	0	1.06	.00	.00	.00
SMALL BORE PIPE	B41L11	LF	0	0	0	0	0	305	305	0	.00	.00	.00	.00
SMALL BORE PIPE	B42L11	LF	0	0	0	0	0	32	32	0	.00	.00	.00	.00
SMALL BORE PIPE	B43L11	LF	1111	2066	2066	0	1759	1222	1222	0	1.58	.59	.59	.00
SMALL BORE PIPE	B44L11	LF	4024	8391	8391	0	6264	9032	9032	0	1.56	1.08	1.08	.00
SMALL BORE PIPE	B45L11	LF	440	1430	1430	0	762	430	430	0	1.73	.30	.30	.00
INST CS PIPE 2IN & U	B99L11	LF	39	406	406	0	66	803	803	0	1.69	1.99	1.98	.00
INST CS PIPE 2IN & U	C51L11	LF	1460	0	0	0	1760	11	11	0	1.21	.00	.00	.00
INST CS PIPE 2IN & U	C52L11	LF	1015	0	0	0	1225	0	0	0	1.21	.00	.00	.00
INST CS PIPE 2IN & U	C53L11	LF	435	0	0	0	525	0	0	0	1.21	.00	.00	.00
INST CS PIPE 2IN & U	C54L11	LF	1370	0	0	0	1650	0	0	0	1.20	.00	.00	.00
INST CS PIPE 2IN & U	C55L11	LF	700	0	0	0	840	0	0	0	1.20	.00	.00	.00
INST CS PIPE 2IN & U	C56L11	LF	1070	0	0	0	1290	0	0	0	1.21	.00	.00	.00
MORRIS - 2" & UNDER R	S09L11	LF	3366	2039	2039	0	4337	2906	3553	0	1.29	1.43	1.74	.00
ALLEN 2" & UNDER RK &	S29L11	LF	2541	1486	1486	0	2700	2592	1643	0	1.06	1.74	1.11	.00
INST SC PIPE 2IN & U	S31L11	LF	3822	556	556	0	4914	693	696	0	1.29	1.25	1.25	.00
HOKE--2" & UNDER RK	S32L11	LF	703	1395	1395	0	676	2045	3490	0	.96	1.47	2.50	.00
INST CS PIPE 2IN & U	S45L11	LF	185	600	600	0	320	1213	508	0	1.73	2.02	.85	.00
HOKE-2" & UNDER RK &	S99L11	LF	4	46	46	0	5	101	147	0	1.25	2.20	3.20	.00
**TOTAL SPL 2 IN&M PIPE			67191	59457	59453	0	83263	137640	138611	180	1.24	2.31	2.33	.00
TREND FORECAST MH			138625	TREND FORECAST PERF			1.79	** PERFORMANCE RATIOS **			1.00	1.78	1.79	.00

GARRARD 00000737

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
SPL 2.5-6 IN PIPE L12

DATE 5/24/82
PAGE 35
PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT OF QUANT	QUANTITY				MANHOURS				UNIT MANHOURS			
		BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#			#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

LARGE BORE CS PIPE S A06L12 LF		343	505	505	0	721	1175	1175	0	2.10	2.33	2.33	.00
LARGE BORE CS PIPE S A11L12 LF		1652	3070	3070	0	3918	9299	9299	0	2.37	3.03	3.03	.00
LARGE BORE CS PIPE S A12L12 LF		2436	4623	4623	0	5116	17803	17811	0	2.10	3.85	3.85	.00
LB CS SPOOLS S A13L12 LF		463	866	866	0	1115	7677	7677	0	2.41	8.86	8.86	.00
LARGE BORE CS PIPE S A14L12 LF		2177	4003	4003	0	5270	16034	16034	0	2.42	4.01	4.01	.00
LARGE BORE CS PIPE S A15L12 LF		1430	3503	3503	0	3132	21462	21512	0	2.19	6.13	6.14	.00
LARGE BORE CS PIPE S A17L12 LF		1027	1909	1908	0	2262	6841	6841	0	2.20	3.58	3.59	.00
LARGE BORE CS PIPE S A18L12 LF		2081	2832	2832	0	4100	22007	22114	0	1.97	7.77	7.81	.00
LARGE BORE CS PIPE S A19L12 LF		1453	2227	2227	0	3218	11512	11512	0	2.21	5.17	5.17	.00
LARGE BORE CS SPLD P A21L12 LF		26	1053	1053	0	50	6745	6745	0	1.92	6.41	6.41	.00
INST CS SPLD 3IN TO B09L12 LF		0	0	0	0	0	302	302	0	.00	.00	.00	.00
LARGE BORE CS SPLD P B21L12 LF		0	0	0	0	0	1	0	0	.00	.00	.00	.00
INST CS SPLD 3IN TO B23L12 LF		5086	3711	3711	0	13915	12587	12583	0	2.74	3.39	3.39	.00
INST CS SPLD 3IN TO B24L12 LF		10	2531	2531	0	27	7493	7493	0	2.70	2.96	2.96	.00
INST CS SPLD 3IN TO B25L12 LF		10	1687	1687	0	27	5281	5281	0	2.70	3.13	3.13	.00
INST CS SPLD 3IN TO B28L12 LF		1705	1102	1102	0	2933	3475	3475	0	1.72	3.15	3.15	.00
INST CS SPLD 3IN TO B29L12 LF		561	534	534	0	1112	3142	3156	0	1.98	5.88	5.91	.00
INST CS SPLD 3IN TO B32L12 LF		0	0	0	0	0	361	361	0	.00	.00	.00	.00
LARGE BORE SPOOLED P B41L12 LF		719	1812	1812	0	1189	4956	4956	0	1.65	2.74	2.74	.00
LARGE BORE SPOOLED P B42L12 LF		439	1093	1093	0	840	2999	2999	0	1.91	2.74	2.74	.00
LARGE BORE SPOOLED P B43L12 LF		327	718	718	0	632	2512	2512	0	1.93	3.50	3.50	.00
LARGE BORE SPOOLED P B44L12 LF		1581	3874	3874	0	3086	13036	13036	0	1.95	3.37	3.37	.00
LARGE BORE SPOOLED P B45L12 LF		25	56	56	0	59	409	409	0	2.36	7.30	7.30	.00
INST CS PIPE GTR THA B99L12 LF		239	882	882	0	345	2205	2205	0	1.44	2.50	2.50	.00
MORRIS - 3" & OVER SP S09L12 LF		1409	2261	2261	0	2973	6891	6664	0	2.11	3.05	2.95	.00
ALLEN3" & OVER SPOOL S29L12 LF		874	1266	1266	0	2210	3768	4137	0	2.53	2.98	3.27	.00
INST CS SPLD 3IN TO S31L12 LF		1125	586	586	0	2047	2549	2549	0	1.82	4.35	4.35	.00
HUKE--3" & OVER SPOOL S32L12 LF		1957	1120	1120	0	5211	5521	5241	0	2.66	4.93	4.68	.00
LARGE BORE CS SPLD P S45L12 LF		116	269	269	0	266	447	2086	0	2.29	1.66	7.75	.00
HUKE-3" & OVER SPOOL S99L12 LF		6	199	199	0	11	507	202	0	1.83	2.55	1.02	.00
**TOTAL SPL 2.5-6 IN PIPE		29277	48292	48291	0	65785	198997	200367	0	2.25	4.12	4.15	.00
TREND FORECAST MH		200372	TREND FORECAST PERF		1.87	** PERFORMANCE RATIOS **				1.00	1.86	1.87	.00
DELETE A16L12 ZZZZZ		0	0	0	0	0	0	0	0	.00	.00	.00	.00
**TOTAL SPL 2.5-6 IN PIPE		0	0	0	0	0	0	0	0	.00	.00	.00	.00
TREND FORECAST MH		0	TREND FORECAST PERF		.00	** PERFORMANCE RATIOS **				.00	.00	.00	.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
INST CS RACK3IN-6I L17

DATE 5/24/82
PAGE 36

PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

LB CS PIPE-RACK S A13L17 LF		13245	6676	6676	0	11746	5717	5717	0	.89	.86	.86	.00
LARGE BORE CS RACK P A21L17 LF		61	2982	2982	0	56	4766	4766	0	.92	1.60	1.60	.00
LARGE BORE CS RACK P B21L17 LF		0	0	0	0	0	35	0	0	.00	.00	.00	.00
LARGE BORE RACK PIPE B41L17 LF		8357	4442	4442	0	5677	4293	4293	0	.68	.97	.97	.00
LARGE BORE RACK PIPE B42L17 LF		10219	5593	5593	0	7934	4627	4627	0	.78	.83	.83	.00
LARGE BORE RACK PIPE B43L17 LF		4441	2306	2306	0	3733	2486	2486	0	.84	1.08	1.08	.00
LARGE BORE RACK PIPE B44L17 LF		29251	15448	15448	0	25596	12294	12294	0	.88	.80	.80	.00
LARGE BORE RACK PIPE B45L17 LF		5011	2851	2851	0	8361	5472	5472	0	1.67	1.92	1.92	.00
MORRIS - 3" & OVER RA S09L17 LF		2815	1474	1474	0	2633	1297	454	0	.94	.88	.31	.00
ALLEN-3" & OVER RACK S29L17 LF		401	224	224	0	670	334	0	0	1.67	1.49	.00	.00
LARGE BORE CS RACK P S45L17 LF		1419	793	793	0	2367	1179	2330	0	1.67	1.49	2.94	.00
**TOTAL INST CS RACK3IN-6I		75220	42789	42789	0	68773	42500	42439	0	.91	.99	.99	.00
TREND FORECAST MH		43060	TREND FORECAST PERF		1.10	** PERFORMANCE RATIOS **				1.00	1.08	1.08	.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
SPL AL 2IN&S PIPE L21

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	QUANTITY				MANHOURS				UNIT MANHOURS			
OF	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	
ACCT#	QUANT	#004	DATE	WEEK	#004	DATE	WEEK	#004	DATE	#004	DATE	WEEK	

SB ALLOY PIPE-RACK S A13L21 LF		331	192	192	0	1041	294	294	0	3.15	1.53	1.53	.00
SMALL BORE AL PIPE S A15L21 LF		651	496	496	0	751	958	958	0	1.15	1.93	1.93	.00
INST AL PIPE 2IN & U A17L21 LF		579	336	336	0	1101	445	445	0	1.90	1.32	1.32	.00
SMALL BORE AL PIPE S A18L21 LF		304	121	121	0	475	327	327	0	1.56	2.70	2.70	.00
SMALL BORE AL PIPE S A19L21 LF		11	293	293	0	20	668	668	0	1.82	2.28	2.28	.00
INST AL PIPE 2IN & U B23L21 LF		280	0	0	0	611	5800	0	0	2.18	.00	.00	.00
INST AL PIPE 2IN & U B28L21 LF		10	0	0	0	44	0	0	0	4.40	.00	.00	.00
MURRIS-ALLOY PIPE S09L21 LF		275	623	623	0	630	1109	1171	0	2.29	1.78	1.88	.00
**TOTAL SPL AL 2IN&S PIPE		2441	2061	2061	0	4673	9601	3863	0	1.91	4.66	1.87	.00
TREND FORECAST MH		3863	TREND FORECAST PERF	.97	** PERFORMANCE RATIOS **	1.00	2.42	.97	.00				

JOB NO. 14053-000
ROBINSON REFINRY MODERN2TN PROJ-MQC
REPORT NO. C38090-5a

F O C U S
QUANTITY AND UNIT RATE REPORT
SPL AL 2.5-6INPIPE L22

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	QUANTITY				MANHOURS				UNIT MANHOURS			
	OF	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

LARGE BORE AL PIPE S A12L22 LF		357	505	505	0	1591	2377	2377	0	4.46	4.71	4.71	.00
LARGE BORE AL PIPE S A15L22 LF		121	327	327	0	574	5052	5052	0	4.74	15.45	15.45	.00
LARGE BORE AL PIPE S A18L22 LF		907	1289	1289	0	4017	18764	18764	0	4.43	14.56	14.56	.00
LARGE BORE AL PIPE S A19L22 LF		7	48	48	0	31	1099	1099	0	4.43	22.90	22.90	.00
LARGE BORE AL SPLD P B21L22 LF		230	0	0	0	385	0	0	0	1.67	.00	.00	.00
**TOTAL SPL AL 2.5-6INPIPE		1622	2169	2169	0	6598	27292	27292	0	4.07	12.58	12.58	.00
TREND FORECAST MH		27292	TREND FORECAST PERF	2.81	** PERFORMANCE RATIOS **	1.00	2.81	2.81	.00				

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
RCK AL 2.5-6IN PIP L24

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

INST AL RACK LARGE B A16L24 LF		992	0	0	0	752	0	0	0	.76	.00	.00	.00
LARGE BORE AL RACK P B21L24 LF		360	0	0	0	596	0	0	0	1.66	.00	.00	.00
**TOTAL RCK AL 2.5-6IN PIP		1352	0	0	0	1348	0	0	0	1.00	.00	.00	.00
TREND FORECAST MH		2068				2.75				** PERFORMANCE RATIOS **	1.00	.00	.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
OU/G CS PIPE L70

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	QUANTITY				MANHOURS				UNIT MANHOURS			
	OF	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

INST U/G PIPING	A16L70 LF	2301	2303	2303	0	5083	6263	6263	0	2.21	2.72	2.72	.00
INSTALL U/GROUND PIP	B09L70 LF	9	117	117	0	8	168	168	0	.89	1.44	1.44	.00
INSTALL U/G PIPE	B23L70 LF	490	990	990	0	581	1236	1236	0	1.19	1.25	1.25	.00
INSTALL U/G PIPE	B28L70 LF	10	0	0	0	22	6	6	0	2.20	.00	.00	.00
INSTALL U/G PIPE	B29L70 LF	5	180	180	0	7	468	468	0	1.40	2.60	2.60	.00
INSTALL U/G PIPE	B32L70 LF	95	2091	2091	0	164	4257	4257	0	1.73	2.04	2.04	.00
INSTALL U/G PIPING	B33L70 LF	1155	0	0	0	2779	0	0	0	2.41	.00	.00	.00
INSTALL U/G PIPE	B90L70 LF	75	0	0	0	130	0	0	0	1.73	.00	.00	.00
MORRIS--UNDERGROUND P	S09L70 LF	1	10	10	0	1	20	118	0	1.00	2.00	11.80	.00
ALLEN--UNDERGROUND PIP	S29L70 LF	5	34	34	0	6	74	77	0	1.20	2.18	2.26	.00
HOKE--UNDERGROUND PI	S32L70 LF	5	109	109	0	9	216	89	0	1.80	1.98	.82	.00
**TOTAL OU/G CS PIPE		4151	5834	5834	0	8790	12708	12682	0	2.12	2.18	2.17	.00
TREND FORECAST MH		12682	TREND FORECAST PERF		1.21	** PERFORMANCE RATIOS **				1.00	1.21	1.21	.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
STM TRACE TBG L80

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION		UNIT	QUANTITY				MANHOURS				UNIT MANHOURS			
ACCT#	QUANT	OF	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
				#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

STEAM TRACE TUBING S	A06L80	LF	20	844	844	0	11	491	491	0	.55	.58	.58	.00
STEAM TRACE TUBING S	A11L80	LF	20	632	632	0	11	431	431	0	.55	.68	.68	.00
STEAM TRACE TUBING S	A12L80	LF	20	2785	2785	0	11	1519	1519	0	.55	.55	.55	.00
STEAM TRACE TUBING S	A13L80	LF	20	2408	2408	0	11	966	966	0	.55	.40	.40	.00
STEAM TRACE TUBING S	A14L80	LF	20	1257	1257	0	11	816	816	0	.55	.65	.65	.00
STEAM TRACE TUBING S	A15L80	LF	20	1847	1847	0	11	875	875	0	.55	.47	.47	.00
INSTALL STM TRACE TU	A16L80	LF	6412	0	0	0	3432	0	0	0	.54	.00	.00	.00
STEAM TRACE TUBING S	A17L80	LF	20	434	434	0	11	168	168	0	.55	.39	.39	.00
STEAM TRACE TUBING S	A18L80	LF	20	3712	3710	0	11	3552	3652	0	.55	.96	.98	.00
STEAM TRACE TUBING S	A19L80	LF	20	984	984	0	11	595	595	0	.55	.60	.60	.00
STEAM TRACE TUBING S	A21L80	LF	20	444	444	0	11	191	191	0	.55	.43	.43	.00
STEAM TRACE TUBING	A31L80	LF	20	0	0	0	11	0	0	0	.55	.00	.00	.00
STEAM TRACING	B09L80	LF	0	0	0	0	0	44	44	0	.00	.00	.00	.00
INST STM TRACE TUBIN	B23L80	LF	250	4400	4400	0	135	3005	3005	0	.54	.68	.68	.00
STEAM TRACING	B28L80	LF	50	888	888	0	27	1327	1327	0	.54	1.49	1.49	.00
STEAM TRACING	B29L80	LF	0	0	0	0	0	121	121	0	.00	.00	.00	.00
STEAM TRACING	B32L80	LF	0	0	0	0	0	0	0	0	.00	.00	.00	.00
STEAM TRACING	B99L80	LF	50	8359	8359	0	27	3759	3759	0	.54	.45	.45	.00
INST STM TRACE TUBIN	C51L80	LF	8693	874	874	0	4926	495	495	0	.57	.57	.57	.00
INSTALL STEAM TRACE-	C61L80	LF	7	800	800	0	4	411	411	0	.57	.51	.51	.00
INSTALL STEAM TRACE-	C62L80	LF	6050	870	870	0	3430	200	200	0	.57	.23	.23	.00
INSTALL STEAM TRACE-	C63L80	LF	2600	888	888	0	1475	130	130	0	.57	.15	.15	.00
INSTALL STEAM TRACE-	C64L80	LF	4800	691	691	0	2811	112	112	0	.59	.16	.16	.00
INSTALL STEAM TRACE-	C65L80	LF	4150	925	925	0	2355	197	197	0	.57	.21	.21	.00
INSTALL STEAM TRACE-	C66L80	LF	6250	721	721	0	3502	122	122	0	.56	.17	.17	.00
MORRIS-STEAM TRACING	S09L80	LF	50	3981	3981	0	27	1728	1447	0	.54	.43	.36	.00
ALLENSTEAM TRACING	S29L80	LF	50	478	478	0	27	686	416	0	.54	1.44	.87	.00
HOKE--STEAM TRACING	S32L80	LF	50	350	350	0	27	459	417	0	.54	1.31	1.19	.00
**TOTAL STM TRACE TBG			39682	39572	39570	0	22326	22400	21907	0	.56	.57	.55	.00
TREND FORECAST MH			21909	TREND FORECAST PERF			1.01	** PERFORMANCE RATIOS **			1.00	1.03	1.01	.00

FOCUS
QUANTITY AND UNIT RATE REPORT
DETAIL L81

PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

GARRARD 00000745

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
X-RAY&STR RELIEVNG L91

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	QUANTITY				MANHOURS				UNIT MANHOURS			
ACCT#	QUANT	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
			#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

ASSIST XRAY & ST REL A16L91	UNITS	200	200	200	0	1400	3471	3471	0	7.00	17.36	17.36	.00
ASSIST XRAY & ST REL B23L91	UNITS	100	100	100	0	225	483	483	0	2.25	4.83	4.83	.00
ASSIST XRAY & ST REL B32L91	UNITS	100	0	0	0	400	0	0	0	4.00	.00	.00	.00
**TOTAL X-RAY&STR RELIEVNG		400	300	300	0	2025	3954	3954	0	5.06	13.18	13.18	.00
TREND FORECAST MH		3954	TREND FORECAST PERF	2.43	** PERFORMANCE RATIOS **					1.00	2.43	2.43	.00

JOB NO. 14053-000
ROBINSON REFIARY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
TIE-IN WORK L93

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	QUANTITY	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT	#004	DATE	WEEK	#004	DATE	WEEK	#004	DATE	WEEK	#004	DATE	WEEK	#004

FAB TIE-IN SPOOLS	B23L93 EA	1	36	36	0	13	901	901	0	13.00	25.03	25.03	.00	
**TOTAL TIE-IN WORK		1	36	36	0	13	901	901	0	13.00	25.03	25.03	.00	
TREND FORECAST MH		901	TREND FORECAST PERF	1.93	** PERFORMANCE RATIOS **	1.00	1.93	1.93	.00					

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
TESTING&INSPECTION L98

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT OF	BUDGET	QUANTITY	TO	THIS	BUDGET	MANHOURS	TO	THIS	BUDGET	UNIT	MANHOURS	TO	THIS
ACCT#	QUANT		FCST	DATE	WEEK		FCST	DATE	WEEK		#004	DATE	WEEK	

TESTING & INSPECTION A16L98 LF		63033	90432	90432	0	6698	16547	16579	0	.11	.18	.18	.00	
TESTING & INSPECTION B09L98 LF		0	0	0	0	0	75	75	0	.00	.00	.00	.00	
TESTING & INSPECTION B21L98 LF		0	0	0	0	0	0	0	0	.00	.00	.00	.00	
TESTING & INSPECTION B23L98 LF		17055	24212	24212	0	1933	4195	4195	0	.11	.17	.17	.00	
TESTING & INSPECTION B29L98 LF		0	0	0	0	0	65	65	0	.00	.00	.00	.00	
TESTING & INSPECTION B32L98 LF		253	544	544	0	18	11	11	0	.07	.02	.02	.00	
TESTING & INSPECTION B33L98 LF		1455	0	0	0	255	0	0	0	.18	.00	.00	.00	
TESTING & INSPECTION B41L98 LF		72732	58869	58869	0	5158	2594	2594	0	.07	.04	.04	.00	
TESTING & INSPECTION B99L98 LF		99	186	186	0	7	6	6	0	.07	.03	.03	.00	
MORRIS-HYDROTESTING S09L98 LF		4615	9292	9292	0	503	959	1027	0	.11	.10	.11	.00	
ALLENHYDROTESTING S29L98 LF		4570	4481	4481	0	433	435	664	0	.09	.10	.15	.00	
TESTING & INSPECTION S31L98 LF		4915	1142	842	0	367	40	24	0	.07	.04	.03	.00	
HOKE--HYDROTESTING S32L98 LF		2454	1796	1796	0	179	249	33	0	.07	.14	.02	.00	
**TOTAL TESTING&INSPECTION		171181	190954	190654	0	15551	25176	25273	0	.09	.13	.13	.00	
TREND FORECAST MH		25283	TREND FORECAST PERF		1.39	** PERFORMANCE RATIOS **				1.00	1.38	1.39	.00	

JOB NO. 14053-000
ROBINSON REFINERY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
STEEL STRUCTURE M10

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

STEEL STRUCTURES	A16M10 TONS	387	300	300	0	14530	17477	17477	0	37.55	58.26	58.26	.00
STEEL STRUCTURES	B09M10 TONS	13	8	8	0	466	210	210	0	35.85	26.25	26.25	.00
STEEL STRUCTURES	B23M10 TONS	60	7	7	0	2385	650	650	0	39.75	92.86	92.86	.00
STEEL STRUCTURES	B28M10 TONS	32	1	1	0	1725	65	65	0	53.91	65.00	65.00	.00
STEEL STRUCTURES	B29M10 TONS	5	1	1	0	200	20	20	0	40.00	20.00	20.00	.00
**TOTAL STEEL STRUCTURE		497	317	317	0	19306	18422	18422	0	38.85	58.11	58.11	.00
TREND FORECAST MH		18422	TREND FORECAST PERF	1.55		** PERFORMANCE RATIOS **	1.00	1.55	1.55	.00			

JOB NO. 14053-C00
ROBINSON REFINRY MODERNZTN PROJ-MGC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
LADDERS&PLAT,&HRL M20

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT OF	QUANTITY				MANHOURS				UNIT MANHOURS			
		BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

LADDERS & PLATFORMS	A16M20 TONS	58	140	140	0	4575	13144	13144	0	78.88	93.89	93.89	.00
LADDERS & PLATFORMS	B09M20 TONS	13	7	7	0	842	1039	1039	0	64.77	148.43	148.43	.00
PLATFORMS & LADDERS	B23M20 TONS	28	34	34	0	2075	4055	4055	0	74.11	119.26	119.26	.00
PLATFORMS & LADDERS	B28M20 TONS	1	13	13	0	75	1044	1044	0	75.00	80.31	80.31	.00
**TOTAL	LADDERS&PLAT,&HRL	100	194	194	0	7567	19282	19282	0	75.67	99.39	99.39	.00
TREND FORECAST MH		19282	TREND FORECAST PERF		1.29	** PERFORMANCE RATIOS **				1.00	1.29	1.29	.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
PIPEWAY STEEL M30

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT OF	BUDGET	QUANTITY	TO	THIS	BUDGET	MANHOURS	TO	THIS	BUDGET	UNIT	MANHOURS	TO	THIS
ACCT#	QUANT		FCST	DATE	WEEK		FCST	DATE	WEEK		#004	DATE	WEEK	

PIPEWAY STEEL	A16M30 TONS	12	22	22	0	450	1024	1024	0	37.50	46.55	46.55		.00
PIPEWAY STEEL	A31M30 TONS	1	5	5	0	38	209	209	0	38.00	41.80	41.80		.00
PIPEWAY STEEL	B09M30 TONS	15	42	42	0	574	1458	1458	0	38.27	34.71	34.71		.00
PIPEWAY STEEL	B21M30 TONS	462	327	327	0	17380	16443	16443	0	37.62	50.28	50.28		.00
PIPEWAY STEEL	B23M30 TONS	62	17	17	0	2340	816	816	0	37.74	48.00	48.00		.00
PIPEWAY STEEL	S09M30 TONS	1	1	1	0	38	65	39	0	38.00	65.00	39.00		.00
**TOTAL PIPEWAY STEEL		553	414	414	0	20820	20015	19989	0	37.65	48.35	48.28		.00
TREND FORECAST MH		19989	TREND FORECAST PERF	1.28	** PERFORMANCE RATIOS **	1.00	1.28	1.28						.00

JOB NO. 14053-C00
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
MISCELL STRCT STEL M40

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	QUANTITY				MANHOURS				UNIT MANHOURS			
	OF	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

MISCELL STRUCT STEEL B21M40	TONS	59	5	5	0	4420	180	108	0	74.92	36.00	21.60	.00
MISC. STEEL B32M40	TONS	17	22	22	0	411	1630	1630	0	24.18	74.09	74.09	.00
MISCELL STRUCTURAL S C50M40	TONS	18	22	22	0	1220	1341	1341	0	67.78	60.95	60.95	.00
**TOTAL MISCELL STRCT STEL		94	49	49	0	6051	3151	3079	0	64.37	64.31	62.84	.00
TREND FORECAST MH		3079	TREND FORECAST PERF		1.28	** PERFORMANCE RATIOS **				1.00	1.31	1.28	.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
AREA C INSUL FSC18 N18

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	OF	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT			#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

AREA C INSULATION FS SOON18 LF			17830	8786	8786	0	10219	6263	6263	0	.57	.71	.71	.00
**TOTAL AREA C INSUL FSC18			17830	8786	8786	0	10219	6263	6263	0	.57	.71	.71	.00
TREND FORECAST MH			6263	TREND FORECAST PERF		1.24	** PERFORMANCE RATIOS **				1.00	1.24	1.24	.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
BRAND EQP IN FSC21 N21

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	QUANTITY				MANHOURS				UNIT MANHOURS			
	OF	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

EQUIP INSLN PLT16 FS S00N21 SF		33000	29712	23973	412	11220	9233	9814	331	.34	.31	.41	.80
**TOTAL BRAND EQP IN FSC21		33000	29712	23973	412	11220	9233	9814	331	.34	.31	.41	.80
TREND FORECAST MH	12163	TREND FORECAST PERF				1.20	** PERFORMANCE RATIOS **				1.00	.91	1.20 2.36

GARRARD 00000754

JOB NO. 14053-G00
ROBINSON REFINRY MODERNZTN PROJ-MOC
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QUANTITY AND UNIT RATE REPORT
AREA A PIP IN FSC21 N22

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

PIPE INSLTN PLT16 FS S00N22 SF		71670	50000	20970	2944	25951	18878	10270	912	.36	.38	.49	.31
**TOTAL AREA A PIP IN FSC21		71670	50000	20970	2944	25951	18878	10270	912	.36	.38	.49	.31
TREND FORECAST MH	24487	TREND FORECAST PERF	1.35	** PERFORMANCE RATIOS **				1.00	1.04	1.35	.86		

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ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
AREAB EQP IN FSC24 N23

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

EQUIP INSLN OFFPL FS SOON23 SF		12830	12288	12288	80	3977	1800	6047	0	.31	.15	.49	.00
**TOTAL AREAB EQP IN FSC24		12830	12288	12288	80	3977	1800	6047	0	.31	.15	.49	.00
TREND FORECAST MH	6047	TREND FORECAST PERF			1.59	** PERFORMANCE RATIOS **				1.00	.47	1.59	.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MCC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
AREA B PIP IN FSC24 N24

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

PIPE INSLTN OFFPL FS SOON24 ELF		73914	44000	24767	1330	19957	14750	8414	832	.27	.34	.34	.63
**TOTAL AREA B PIP IN FSC24		73914	44000	24767	1330	19957	14750	8414	832	.27	.34	.34	.63
TREND FORECAST MH	14948	TREND FORECAST PERF		1.26		** PERFORMANCE RATIOS **		1.00		1.24		1.26	2.32

GARRARD 00000757

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
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F O C U S
QUANTITY AND UNIT RATE REPORT
FRPF VSL SKT OFFPL N25

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT OF	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

FIREPRF VSSL SKRT OF SOON25 SF		2200	9747	9746	952	260	2500	1032	135	.12	.26	.11	.38
**TOTAL FRPF VSL SKT OFFPL						260	2500	1032	135				
TREND FORECAST MH		1032	TREND FORECAST PERF		.90	** PERFORMANCE RATIOS **		1.00	2.17	.90	3.25		

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
FRPF STR STL OFFPL N26

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	-----QUANTITY-----	-----MANHOURS-----	UNIT	MANHOURS
ACCT#	OF	BUDGET	FCST	TO	THIS
QUANT	•	#004	DATE	WEEK	WEEK

FIREPRF STR STEEL OF SOON26 CF		1323	2893	2793	197
				4661	2000
				1993	65
				3.52	.69
				.71	.33

**TOTAL FRPF STR STL OFFPL				4661	2000
				1993	65

TREND FORECAST MH	2064	TREND FORECAST PERF	.20	** PERFORMANCE RATIOS **	1.00
					.20
					.20
					.09

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F U C U S
QUANTITY AND UNIT RATE REPORT
FRPF VSL SKT PL 16 N27

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	-----QUANTITY-----	-----MANHOURS-----	-----UNIT MANHOURS-----									
OF	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	
ACCT#	QUANT	#004	DATE	WEEK	#004	DATE	WEEK	#004	DATE	WEEK			

FIREPRF VSSL SKRT-PL S00N27 SF		5750	7850	6641	2736	690	0	1898	436	.12	.00	.29	.16
**TOTAL FRPF VSL SKT PL 16						690	0	1898	436				
TREND FORECAST MH	2244	TREND FORECAST PERF	2.38	** PERFORMANCE RATIOS **				1.00	.00	2.38	1.33		

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
FRPF STR STL PL 16 N28

DATE 5/24/82
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PERFORMANCE BASED ON BUCGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT OF	QUANTITY	MANHOURS	UNIT MANHOURS									
ACCT#	QUANT	BUCGET	FCST	TO	THIS	BUCGET	FCST	TO	THIS	BUCGET	FCST	TO	THIS
		#004	#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

FIREPRF STR.STEEL-PL S00N28 SF		27	1022	213	0	95	0	168	0	3.52	.00	.19	.00
**TOTAL FRPF STR STL PL 16						95	0	168	0				
TREND FORECAST MH	806	TREND FORECAST PERF		.22		** PERFORMANCE RATIOS **		1.00	.00	.22	.00		

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MCC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
INSULATE INSTRUMTS N30

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

INSTR INSULATION OFF	SOON30 EA	1	188	10	0	5	0	32	32	5.00	.00	3.20	.00
FIREPROOFING LUGS	A16N30 UNITS	1	827	827	0	1	849	849	0	1.00	1.03	1.03	.00
FIREPROOFING LUGS	B23N30 UNITS	1	725	725	0	1	808	808	0	1.00	1.11	1.11	.00
**TOTAL	INSULATE INSTRUMTS					7	1657	1689	32				
TREND FORECAST MH	2597	TREND FORECAST PERF	1.04	** PERFORMANCE RATIOS **	1.00	.66	1.05	.00					

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
FIREPROOF STRUT SL N40

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	QUANTITY			MANHOURS			UNIT		
ACCT#	QUANT	BUDGET	FCST	TO	BUDGET	FCST	TO	BUDGET	FCST	TO
			#004	DATE	WEEK	#004	DATE		#004	DATE
FIREPROOF STRUCT STE B23N40 CF		3537	0	0	0	12462	0	0	3.52	.00
FIREPROOF STRUCTURAL B28N40 CF		891	0	0	0	3200	0	0	3.59	.00
FIREPROOF STRUCT STE B29N40 CF		243	0	0	0	900	0	0	3.70	.00
**TOTAL FIREPROOF STRUT SL		4671	0	0	0	16562	0	0	3.55	.00
TREND FORECAST MH		0				.00	** PERFORMANCE RATIOS **	1.00	.00	.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
POWER DISTRB EQP P11

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT OF	BUDGET	QUANTITY	TO	THIS	BUDGET	MANHOURS	TO	THIS	BUDGET	UNIT	MANHOURS	TO	THIS
ACCT#	QUANT		FCST	DATE	WEEK		FCST	DATE	WEEK		#004	DATE	WEEK	

POWER DISTRIBUTION E B30P11 EA		9	8	8	0	2590	359	359	0	287.78	44.88	44.88		.00
DISTRBT HGH VLTG PWR C50P11 EA		3	3	3	0	360	456	456	0	120.00	152.00	152.00		.00
**TOTAL POWER DISTRB EQP		12	11	11	0	2950	815	815	0	245.83	74.09	74.09		.00
TREND FORECAST MH		815	TREND FORECAST PERF		.31	** PERFORMANCE RATIOS **		1.00		.31	.31			.00

JOB NO. 14053-000
 ROBINSON REFINRY MODERNZTN PROJ-MOC
 REPORT NO. C38090-58

F O C U S
 QUANTITY AND UNIT RATE REPORT
 POWER&CONTROL EQUI P12

DATE 5/24/82
 PAGE 62
 PERFORMANCE BASED ON BUDGET
 WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION		UNIT	QUANTITY				MANHOURS				UNIT MANHOURS			
ACCT#	QUANT	OF	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
			#004	#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

POWER & CONTROL EQUI A16P12	EA		127	204	204	0	6218	5664	5745	48	48.96	27.76	28.16	.00
POWER & CONTROL EQUI B09P12	EA		16	13	13	0	755	174	174	0	47.19	13.38	13.38	.00
POWER & CONTROL EQUI B21P12	EA		10	8	8	0	640	97	97	0	64.00	12.13	12.13	.00
POWER & CONTROL EQUI B23P12	EA		44	52	52	0	2400	1239	1239	0	54.55	23.83	23.83	.00
POWER & CONTROL EQUI B28P12	EA		8	0	0	0	294	8	8	0	36.75	.00	.00	.00
POWER & CONTROL EQUI B29P12	EA		11	17	17	0	480	289	289	0	43.64	17.00	17.00	.00
POWER & CONTROL EQUI B32P12	EA		8	15	15	0	480	602	602	0	60.00	40.13	40.13	.00
POWER & CONTROL EQUI C51P12	EA		22	19	19	0	772	593	593	0	35.09	31.21	31.21	.00
POWER & CONTROL EQUI C52P12	EA		9	24	24	0	160	440	440	0	17.78	18.33	18.33	.00
POWER & CONTROL EQUI C53P12	EA		23	41	41	0	480	915	915	0	20.87	22.32	22.32	.00
POWER & CONTROL EQUI C54P12	EA		22	49	49	0	810	1099	1099	0	36.82	22.43	22.43	.00
POWER & CONTROL EQUI C55P12	EA		20	60	60	0	320	821	821	0	16.00	13.68	13.68	.00
**TOTAL POWER&CONTROL EQUI			320	502	502	0	13809	11941	12022	48	43.15	23.79	23.95	.00
TREND FORECAST MH			12022	TREND FORECAST PERF		.59	** PERFORMANCE RATIOS **				1.00	.59	.59	.00
POWER & CONTROL EQUI C50P12 UNITS			108	100	100	0	1020	462	462	0	9.44	4.62	4.62	.00
**TOTAL POWER&CONTROL EQUI			108	100	100	0	1020	462	462	0	9.44	4.62	4.62	.00
TREND FORECAST MH			462	TREND FORECAST PERF		.49	** PERFORMANCE RATIOS **				1.00	.49	.49	.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
UPS EQUIP&STOBY P13

DATE 5/24/82
PAGE 63
PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT OF QUANT	BUDGET	QUANTITY FCST #004	TO DATE	THIS WEEK	BUDGET	MANHOURS FCST #004	TO DATE	THIS WEEK	BUDGET	UNIT FCST #004	TO DATE	THIS WEEK

EMERGENCY & STANDBY A16P13 EA		17	16	16	0	800	524	524	0	47.06	32.75	32.75	.00
EMERGENCY & STANDBY B23P13 EA		1	0	0	0	400	0	0	0	400.00	.00	.00	.00
EMERGENCY & UPS EQUI C50P13 EA		4	4	4	0	2086	1557	1557	0	521.50	389.25	389.25	.00
**TOTAL UPS EQUIP&STOBY		22	20	20	0	3286	2081	2081	0	149.36	104.05	104.05	.00
TREND FORECAST MH		2081	TREND FORECAST PERF		.73	** PERFORMANCE RATIOS **		1.00		.73	.73	.00	

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MUC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
LIGHT FIXTURES&RCT P14

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	QUANTITY				MANHOURS				UNIT MANHOURS			
ACCT#	QUANT	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
			#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

LIGHT FIXTURES & REC A16P14 EA		310	593	593	0	1498	4054	4093	39	4.83	6.84	6.90	.00
LIGHT FIXTURES & REC B09P14 EA		44	26	26	0	252	67	67	0	5.73	2.58	2.58	.00
LIGHT FIXTURES & REC B21P14 EA		9	0	0	0	80	80	0	0	8.89	.00	.00	.00
LIGHT FIXTURES & REC B23P14 EA		53	203	203	0	480	683	683	0	9.06	3.36	3.36	.00
LIGHT FIXTURES & REC B28P14 EA		26	39	39	0	160	71	71	0	6.15	1.82	1.82	.00
LIGHT FIXTURES & REC B29P14 EA		21	38	38	0	320	174	174	0	15.24	4.58	4.58	.00
LIGHT FIXTURES & REC B32P14 EA		41	69	69	0	400	247	247	0	9.76	3.58	3.58	.00
LIGHTING FIXTURES/RE C50P14 EA		14	10	10	0	70	120	120	0	5.00	12.00	12.00	.00
C54P14 EA		0	0	0	0	0	0	0	0	.00	.00	.00	.00
**TOTAL LIGHT FIXTURES&RCT		518	978	978	0	3260	5496	5455	39	6.29	5.62	5.58	.00
TREND FORECAST MH		5455	TREND FORECAST PERF		.85	** PERFORMANCE RATIOS **				1.00	.86	.85	.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
OTHER ELECT EQUIP P15

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

OTHER ELECTRICAL EQU C50P15 EA		131	204	204	0	4755	3912	3912	0	36.30	19.18	19.18	.00
**TOTAL OTHER ELECT EQUIP		131	204	204	0	4755	3912	3912	0	36.30	19.18	19.18	.00
TREND FORECAST MH	3912	TREND FORECAST PERF		.53	** PERFORMANCE RATIOS **		1.00	.53	.53	.00			

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
PROGRAM CONTROLLER P16

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	QUANTITY	MANHOURS	UNIT	MANHOURS								
OF	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	
ACCT#	QUANT	#004	DATE	WEEK	#004	DATE	WEEK	#004	DATE	WEEK			

REDUNDANCY ALARMS	A16P16 EA	259	0	0	0	320	0	0	0	1.24	.00	.00	.00
PROGRAMABEL CONTR MA	C50P16 EA	3	4	4	0	1580	91	91	0	526.67	22.75	22.75	.00
PROGRAM CONTR SATELL	C51P16 EA	34	32	32	0	517	55	55	0	15.21	1.72	1.72	.00
PROGRAM CONTR SATELL	C52P16 EA	17	31	31	0	258	69	69	0	15.18	2.23	2.23	.00
PROGRAM CONTR SATELL	C53P16 EA	20	0	0	0	262	122	122	0	13.10	.00	.00	.00
PROGRAM CONTR SATELL	C54P16 EA	20	2	2	0	262	185	185	0	13.10	92.50	92.50	.00
PROGRAM CONTR SATELL	C55P16 EA	38	36	36	0	522	141	141	0	13.74	3.92	3.92	.00
PROGRAM CONTR SATELL	C56P16 EA	28	0	0	0	272	0	0	0	9.71	.00	.00	.00
**TOTAL PROGRAM CONTROLLER		419	105	105	0	3993	663	663	0	9.53	6.31	6.31	.00
TREND FORECAST MH		663	TREND FORECAST PERF	.18	** PERFORMANCE RATIOS **	1.00	.18	.18	.00				

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
RGS CONDUIT MAINS P20

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT OF	BUDGET	QUANTITY	TO	THIS	BUDGET	MANHOURS	TO	THIS	BUDGET	UNIT	MANHOURS	TO	THIS
ACCT#	QUANT		FCST	DATE	WEEK		FCST	DATE	WEEK		#004	DATE	WEEK	

INST A/G RGS COND MA C50P20 LF		1400	2561	2561	0	1090	3296	3296	0	.78	1.29	1.29	.00	
INST A/G RGS COND MA C51P20 LF		4300	3485	3485	0	3370	3255	3255	0	.78	.93	.93	.00	
INSTALL A/G RGS COT C52P20 LF		1500	433	433	0	1175	488	488	0	.78	1.13	1.13	.00	
INST A/G RGS COND MA C53P20 LF		3295	6112	6112	0	2582	5165	5165	0	.78	.85	.85	.00	
INST A/G RGS COND MA C54P20 LF		5230	14774	14774	0	4382	6161	6161	0	.84	.42	.42	.00	
INSTALL A/G RGS COT C55P20 LF		1000	1789	1789	0	780	739	739	0	.78	.41	.41	.00	
**TOTAL RGS CONDUIT MAINS		16725	29154	29154	0	13379	19104	19104	0	.80	.66	.66	.00	
TREND FORECAST MH		19104	TREND FORECAST PERF		.81	** PERFORMANCE RATIOS **				1.00	.81	.81	.00	

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F U C U S
QUANTITY AND UNIT RATE REPORT
RGS BRANCH CONDUIT P21

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT	#004	DATE	WEEK	#004	DATE	WEEK	#004	DATE	#004	DATE	WEEK	#004

INSTALL A/G RGS COND A16P21 LF		52878	79819	79819	0	29106	45960	47120	764	.55	.58	.59	.00
PLT 31 ELECT (COMPOS A31P21 LF		9	1706	1706	0	5	793	793	0	.56	.46	.46	.00
INSTALL A/G RGS COND B09P21 LF		3814	5250	5250	0	2259	1840	1840	0	.59	.35	.35	.00
INSTALL A/G RGS COND B21P21 LF		2700	600	600	0	1696	291	291	0	.63	.49	.49	.00
INSTALL A/G RGS COND B23P21 LF		21915	26500	26500	0	12456	10476	10460	0	.57	.40	.39	.00
INSTALL A/G RGS COND B28P21 LF		5150	5000	5000	0	2729	1872	1872	0	.53	.37	.37	.00
INSTALL A/G RGS COND B29P21 LF		3685	7500	7500	0	2285	2895	2895	0	.62	.39	.39	.00
INSTALL A/G RGS COND B30P21 LF		200	245	245	0	560	111	111	0	2.80	.45	.45	.00
INST A/G RGS CONDUIT B32P21 LF		5650	7000	7000	0	4536	2955	2955	0	.80	.42	.42	.00
INST A/G RGS COND BR C50P21 LF		3550	3965	3965	0	1917	2611	2611	0	.54	.66	.66	.00
INST A/G RGS COND BR C51P21 LF		16583	13453	13453	0	9099	7300	7300	0	.55	.54	.54	.00
INST A/G RGS COND BR C52P21 LF		3624	4345	4345	0	1648	1901	1901	0	.45	.44	.44	.00
INST A/G RGS COND BR C53P21 LF		11850	12284	12284	0	6189	7555	7555	0	.52	.62	.62	.00
INST A/G RGS COND BR C54P21 LF		18318	16641	16641	0	9399	9718	9718	0	.51	.58	.58	.00
INST A/G RGS COND BR C55P21 LF		4350	5301	5301	0	2236	2251	2251	0	.51	.42	.42	.00
INST A/G RGS CONDUIT C56P21 LF		2280	4875	4875	0	2104	1968	1968	0	.92	.40	.40	.00
REPLACE FLEX CONDUIT- C61P21 LF		37	915	915	0	20	489	489	0	.54	.53	.53	.00
REPLACE FLEX CONDUIT- C62P21 LF		100	3689	3689	0	45	1137	1137	0	.45	.31	.31	.00
REPLACE FLEX CONDUIT- C63P21 LF		1010	1790	1789	0	557	627	627	0	.55	.35	.35	.00
REPLACE FLEX CONDUIT- C64P21 LF		1000	2326	2326	0	516	1170	1170	0	.52	.50	.50	.00
REPLACE FLEX CONDUIT- C65P21 LF		100	1348	1348	0	49	274	274	0	.49	.20	.20	.00
REPLACE FLEX CONDUIT- C66P21 LF		50	1094	1094	0	51	767	767	0	1.02	.70	.70	.00
**TOTAL RGS BRANCH CONDUIT		158853	205646	205645	0	89462	104961	106105	764	.56	.51	.52	.00
TREND FORECAST MH		106105	TREND FORECAST PERF		.91	** PERFORMANCE RATIOS **		1.00		.90	.91	.00	

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
U/G CONDUIT P22

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	QUANTITY				MANHOURS				UNIT MANHOURS			
ACCT#	QUANT	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
			#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

INST U/G CONDUIT	B32P22 LF	1000	320	320	0	160	46	46	0	.16	.14	.14	.00
INST U/G CONDUIT	C50P22 LF	3440	5390	5390	0	1115	1528	1528	0	.32	.28	.28	.00
**TOTAL	U/G CONDUIT	4440	5710	5710	0	1275	1574	1574	0	.29	.28	.28	.00
TREND FORECAST MH	1574	TREND FORECAST PERF	.88	** PERFORMANCE RATIOS **	1.00	.88	.88	.00					

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
NON-METALLIC COND P23

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT OF ACCT# QUANT	QUANTITY				MANHOURS				UNIT MANHOURS			
		BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
		#004	#004	DATE	WEEK	#004	#004	DATE	WEEK	#004	#004	DATE	WEEK

INSTALL NON-MET COND A16P23 LF		25500	17676	17676	0	4117	4183	4183	0	.16	.24	.24	.00
INSTALL NON-MET COND B23P23 LF		3100	3470	3470	0	400	563	563	0	.13	.16	.16	.00
INSTALL NON-MET COND B29P23 LF		900	0	0	0	160	0	0	0	.18	.00	.00	.00
INSTALL NON-MET COND B30P23 LF		300	0	0	0	320	0	0	0	1.07	.00	.00	.00
**TOTAL NON-METALLIC COND		29800	21146	21146	0	4997	4746	4746	0	.17	.22	.22	.00
TREND FORECAST MH		4746	TREND FORECAST PERF	1.44		** PERFORMANCE RATIOS **		1.00		1.44	1.44	.00	

JOB NO. 14053-000
ROBINSON REFINRY MODERN2TN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
CABLE TRAY P25

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT	#004	DATE	WEEK	#004	DATE	WEEK	#004	DATE	#004	DATE	WEEK	#004
INSTALL CABLE TRAY	A16P25 LF	10	895	895	0	15	1268	1272	0	1.50	1.42	1.42	.00
INSTALL CABLE TRAY	B23P25 LF	400	0	0	0	240	0	0	0	.60	.00	.00	.00
INSTALL CABLE TRAY	B29P25 LF	820	0	0	0	1360	0	0	0	1.66	.00	.00	.00
INST CABLE TRAY	C50P25 LF	11220	10920	10920	0	16452	15638	15638	0	1.47	1.43	1.43	.00
INST CABLE TRAY	C51P25 LF	100	80	80	0	160	907	907	0	1.60	11.34	11.34	.00
INSTALL CABLE TRAY	C52P25 LF	200	250	250	0	320	328	328	0	1.60	1.31	1.31	.00
INSTALL CABLE TRAY	C53P25 LF	5	440	440	0	8	879	879	0	1.60	2.00	2.00	.00
INSTALL CABLE TRAY	C54P25 LF	100	97	97	0	160	335	335	0	1.60	3.45	3.45	.00
INSTALL CABLE TRAY	C55P25 LF	400	542	542	0	640	537	537	0	1.60	.99	.99	.00
**TOTAL CABLE TRAY		13255	13224	13224	0	19355	19892	19896	0	1.46	1.50	1.50	.00
TREND FORECAST MH		19896	TREND FORECAST PERF	1.01	** PERFORMANCE RATIOS **	1.00	1.01	1.01	.00				

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
DATA HGHWY CABLE P30

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT OF	BUDGET	QUANTITY	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

PULL DATA HIGHWAY CA C50P30 LF		50620	108950	108950	0	1619	6465	6465	0	.03	.06	.06	.00
**TOTAL DATA HGHWY CABLE		50620	108950	108950	0	1619	6465	6465	0	.03	.06	.06	.00
TREND FORECAST MH		6465	TREND FORECAST PERF		1.86	** PERFORMANCE RATIOS **				1.00	1.86	1.86	.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
600V&1KV CABLE P31

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT OF QUANT	QUANTITY				MANHOURS				UNIT MANHOURS			
		BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#		#004	#004	DATE	WEEK	#004	#004	DATE	WEEK	#004	#004	DATE	WEEK

PULL WIRE 600V & 1KV A16P31 LF		297010	252905	252905	0	8448	6701	6732	10	.028	.027	.027	.000
PULL WIRE 600V & 1KV B09P31 LF		36200	17400	17400	0	805	328	328	0	.022	.019	.019	.000
PULL WIRE 600V & 1KV B21P31 LF		15100	1200	1200	0	560	74	74	0	.037	.062	.062	.000
PULL WIRE 600V & 1KV B23P31 LF		66360	64000	64000	0	1915	1259	1259	0	.029	.020	.020	.000
PULL WIRE 600V & 1KV B28P31 LF		15420	12000	12000	0	397	122	122	0	.026	.010	.010	.000
PULL WIRE 600V & 1KV B29P31 LF		9200	12400	12400	0	1037	505	505	0	.113	.041	.041	.000
PULL WIRE 600V & 1KV B32P31 LF		13500	23870	23870	0	358	728	728	0	.027	.031	.031	.000
PULL WIRE 600V & 1KV C50P31 LF		7260	14200	14200	0	218	759	759	0	.030	.053	.053	.000
PULL WIRE 600V & 1KV C51P31 LF		581	8290	8290	0	31	369	369	0	.053	.045	.045	.000
600 V & 1KV WIRE C52P31 LF		180	6404	6404	0	9	111	111	0	.050	.017	.017	.000
PULL WIRE 600V & 1KV C53P31 LF		25	12180	12180	0	1	616	616	0	.040	.051	.051	.000
PULL WIRE 600V & 1KV C54P31 LF		1175	8804	8804	0	47	200	200	0	.040	.023	.023	.000
PULL WIRE 600V & 1KV C55P31 LF		580	39632	39632	0	31	611	611	0	.053	.015	.015	.000
PULL WIRE 600V & 1KV C56P31 LF		75	5815	5815	0	3	158	158	0	.040	.027	.027	.000
PULL 600V/1KV WIRE - C61P31 LF		19	1200	1200	0	1	37	37	0	.053	.031	.031	.000
PULL 600V/1KV WIRE - C62P31 LF		20	6972	6972	0	1	381	381	0	.050	.055	.055	.000
PULL 600V/1 KV WIRE C63P31 LF		375	1357	1358	0	19	41	41	0	.051	.030	.030	.000
PULL 600V/1KV WIRE - C64P31 LF		25	6017	6017	0	1	443	443	0	.040	.074	.074	.000
PULL 600V/1KV WIRE - C65P31 LF		20	0	0	0	1	0	0	0	.050	.000	.000	.000
PULL 600V/1KV WIRE - C66P31 LF		25	0	0	0	1	14	14	0	.040	.000	.000	.000

**TOTAL 600V&1KV CABLE		463150	494646	494647	0	13884	13457	13488	10	.030	.027	.027	.000

TREND FORECAST MH		13488	TREND FORECAST PERF		.798	** PERFORMANCE RATIOS **				1.000	.796	.798	.000

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
5KV& LARGER CABLE P32

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

PULL CABLE 5KV & ABO A16P32 LF		14400	18285	18285	0	1110	725	725	0	.077	.040	.040	.000
PULL CABLE 5KV & ABO B21P32 LF		1	0	0	0	81	0	0	0	81.000	.000	.000	.000
PULL 5KV & ABOVE CAB B23P32 LF		14	1700	1700	0	1	25	25	0	.071	.015	.015	.000
PULL CABLE 5KN & ABO B32P32 LF		3000	4400	4400	0	240	126	128	0	.080	.029	.029	.000
PULL CABLE 5KV & ABO C50P32 LF		12200	10000	10000	0	1223	1621	1621	0	.100	.162	.162	.000
**TOTAL 5KV& LARGER CABLE		29615	34385	34385	0	2655	2497	2499	0	.090	.073	.073	.000
TREND FORECAST MH		2499	TREND FORECAST PERF		.866	** PERFORMANCE RATIOS **				1.000	.865	.866	.000

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
ELECT&TC WIRE P33

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

PULL ELECTRNIC & TC	A16P33 LF	94200	86150	86150	0	4624	4961	4961	0	.049	.058	.058	.000
PULL ELECTRNIC & TC	B09P33 LF	6250	2265	2265	0	305	77	77	0	.049	.034	.034	.000
PULL ELECTRNIC & TC	B23P33 LF	40375	30000	30000	0	1792	1293	1293	0	.044	.043	.043	.000
PULL ELECTRNIC & TC	B28P33 LF	3670	3065	3065	0	222	130	130	0	.060	.042	.042	.000
PULL ELECTRNIC & TC	B29P33 LF	17100	15700	15700	0	875	346	346	0	.051	.022	.022	.000
PULL ELECTRNIC & TC	B32P33 LF	3800	3800	3800	0	190	52	52	0	.050	.014	.014	.000
PULL ELECTRNIC & TC	C50P33 LF	74800	11101	11101	0	3343	1144	1144	0	.045	.103	.103	.000
PULL ELECT & TC WIRE	C51P33 LF	99000	32303	32303	0	3168	838	838	0	.032	.026	.026	.000
PULL ELECT & TC WIRE	C52P33 LF	63300	8740	8740	0	1818	174	174	0	.029	.020	.020	.000
PULL ELECT & TC WIRE	C53P33 LF	44975	42090	42090	0	1855	1147	1147	0	.041	.027	.027	.000
PULL ELECT & TC WIRE	C54P33 LF	100932	38462	38462	0	3263	1347	1347	0	.032	.035	.035	.000
PULL ELECT & TC WIRE	C55P33 LF	83000	2678	2678	0	2512	88	88	0	.030	.033	.033	.000
PULL ELECT & TC WIRE	C56P33 LF	67000	4420	4420	0	2263	181	181	0	.034	.041	.041	.000
**TOTAL ELECT&TC WIRE		698402	280774	280774	0	26230	11778	11778	0	.038	.042	.042	.000
TREND FORECAST MH		11778	TREND FORECAST PERF		.995	** PERFORMANCE RATIOS **		1.000		.995	.995	.000	

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
TERMNTN 600V&1KV P34

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION		UNIT	QUANTITY				MANHOURS				UNIT MANHOURS			
ACCT#	QUANT	OF	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
			#004	#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

TERMINATIONS 600V &	A16P34	EA	4148	5786	5786	0	2353	4029	4092	58	.57	.70	.71	.00
TERMINATIONS 600V &	B09P34	EA	315	100	100	0	201	54	54	0	.64	.54	.54	.00
TERMINATIONS & TESTI	B21P34	EA	20	50	50	0	157	126	126	0	7.85	2.52	2.52	.00
TERMINATIONS 600V &	B23P34	EA	1168	800	800	0	702	238	238	0	.60	.30	.30	.00
TERMINATIONS 600V &	B28P34	EA	88	100	100	0	139	29	29	0	1.58	.29	.29	.00
TERMINATIONS 600V &	B29P34	EA	189	300	300	0	138	141	141	0	.73	.47	.47	.00
TERMINATIONS 600V &	B32P34	EA	158	150	150	0	204	143	143	0	1.29	.95	.95	.00
TERMINATIONS 600 & 1	C50P34	EA	600	652	652	0	386	378	378	0	.64	.58	.58	.00
TERMINATIONS 600V &	C51P34	EA	5	230	230	0	3	329	329	0	.60	1.43	1.43	.00
600 V & 1KV TERMINAT	C52P34	EA	15	320	320	0	8	73	73	0	.53	.23	.23	.00
TERMINATIONS 600V &	C53P34	EA	20	274	274	0	11	46	46	0	.55	.17	.17	.00
TERMINATE WIRE 600V/	C54P34	EA	15	155	155	0	8	113	113	0	.53	.73	.73	.00
TERMINATIONS 600V &	C55P34	EA	5	751	751	0	3	248	248	0	.60	.33	.33	.00
TERMINATIONS 600V &	C56P34	EA	5	335	335	0	3	151	151	0	.60	.45	.45	.00
TERMINATIONS-600V -	C61P34	EA	5	258	258	0	3	83	83	0	.60	.32	.32	.00
TERMINATIONS-600V -	C62P34	EA	10	155	155	0	6	11	11	0	.60	.07	.07	.00
TERMINATIONS-600V -	C63P34	EA	11	72	72	0	7	7	7	0	.64	.10	.10	.00
TERMINATIONS-600V -	C64P34	EA	10	193	193	0	6	32	32	0	.60	.17	.17	.00
TERMINATIONS-600V -	C65P34	EA	5	0	0	0	3	0	0	0	.60	.00	.00	.00
TERMINATIONS-600V -	C66P34	EA	5	66	66	0	3	10	10	0	.60	.15	.15	.00
**TOTAL TERMNTN 600V&1KV			6797	10747	10747	0	4344	6241	6304	58	.64	.58	.59	.00
TREND FORECAST MH			6304	TREND FORECAST PERF		.92	** PERFORMANCE RATIOS **				1.00	.91	.92	.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
TERMNTN SKV&ABOCE P35

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	QUANTITY				MANHOURS				UNIT MANHOURS			
	OF	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

TERMINATIONS SKV & A A16P35 EA		102	117	117	0	320	467	486	0	3.14	3.99	4.15	.00
SKV & ABOVE TERMINAT B23P35 EA		1	36	36	0	8	86	86	0	8.00	2.39	2.39	.00
TERMINATIONS SKV & A B30P35 EA		35	36	36	0	312	300	300	0	8.91	8.33	8.33	.00
TERMINATIONS SKV & A B32P35 EA		24	24	24	0	145	73	73	0	6.04	3.04	3.04	.00
**TOTAL TERMNTN SKV&ABOCE		162	213	213	0	785	926	945	0	4.85	4.35	4.44	.00
TREND FORECAST MH		945	TREND FORECAST PERF		.84	** PERFORMANCE RATIOS **		1.00		.83		.84	.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
TERMNTN ELECT&TC P36

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION		UNIT	QUANTITY				MANHOURS				UNIT MANHOURS			
ACCT#	QUANT	OF	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
			#004	#004	DATE	WEEK	#004	#004	DATE	WEEK	#004	#004	DATE	WEEK

TERMINATIONS	ELECTR	A16P36	EA	6467	7254	7254	0	3697	4485	4495	0	.57	.62	.62
TERMINATIONS	ELECTR	B09P36	EA	320	80	80	0	187	118	118	0	.58	1.48	1.48
TERMINATIONS	ELECT &	B23P36	EA	3087	2900	2900	0	1749	970	970	0	.57	.33	.33
TERMINATIONS	ELECT &	B28P36	EA	418	400	400	0	229	70	70	0	.55	.18	.18
TERMINATIONS	ELECT &	B29P36	EA	429	300	300	0	272	225	225	0	.63	.75	.75
TERMINATIONS	ELECTR	B32P36	EA	180	180	180	0	235	67	67	0	1.31	.37	.37
TERMINATIONS	ELECT &	C50P36	EA	5461	5167	5167	0	3612	2315	2315	0	.66	.45	.45
TERMINATIONS	ELECT &	C51P36	EA	5098	4987	4987	0	3894	3180	3180	0	.76	.64	.64
TERMINATIONS	ELECT &	C52P36	EA	2131	1964	1964	0	1239	746	746	0	.58	.38	.38
TERMINATIONS	ELECT &	C53P36	EA	2243	4047	4047	0	1248	2188	2188	0	.56	.54	.54
TERMINATIONS	ELECT &	C54P36	EA	3147	898	898	0	1827	1940	1940	0	.58	2.16	2.16
TERMINATIONS	ELECT &	C55P36	EA	6099	3191	3191	0	3416	1110	1110	0	.56	.35	.35
TERMINATIONS	ELECT &	C56P36	EA	3327	2063	2063	0	1972	892	892	0	.59	.43	.43
TERMINATIONS	ELE/TC-	C61P36	EA	4	1646	1646	0	3	905	905	0	.75	.55	.55
TERMINATIONS	ELE/TC-	C62P36	EA	100	2211	2355	0	58	947	947	0	.58	.43	.40
TERMINATIONS	ELE/TC-	C63P36	EA	100	1997	1997	0	56	576	576	0	.56	.29	.29
TERMINATIONS	ELE/TC-	C64P36	EA	1000	3009	3009	0	577	1024	1024	0	.58	.34	.34
TERMINATIONS	ELE/TC-	C65P36	EA	18	5980	5980	0	10	1540	1540	0	.56	.26	.26
TERMINATIONS	ELE/TC-	C66P36	EA	69	2095	2095	0	40	803	803	0	.58	.38	.38
**TOTAL TERMNTN ELECT&TC				39698	50369	50513	0	24321	24101	24111	0	.61	.48	.48
TREND FORECAST MH				24111	TREND FORECAST PERF		.79	** PERFORMANCE RATIOS **			1.00	.79	.79	.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
ELECT/TC WIRE MAIN P37

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

PULL ELECTRONIC MAIN C51P37 LF		5000	6958	6958	0	640	404	404	0	.13	.06	.06	.00
PULL ELECTRONIC MAIN C52P37 LF		100	2239	2239	0	13	92	92	0	.13	.04	.04	.00
PULL ELECTRONIC MAIN C53P37 LF		4000	7452	7452	0	544	539	539	0	.14	.07	.07	.00
PULL ELECTRONIC MAIN C54P37 LF		7318	12388	12388	0	936	1030	1030	0	.13	.08	.08	.00
PULL ELECTRONIC MAIN C55P37 LF		2000	5750	5750	0	256	206	206	0	.13	.04	.04	.00
PULL ELECTRONIC MAIN C56P37 LF		100	4065	4065	0	13	275	275	0	.13	.07	.07	.00
**TOTAL ELECT/TC WIRE MAIN		18518	38852	38852	0	2402	2546	2546	0	.13	.07	.07	.00
TREND FORECAST MH		2546	TREND FORECAST PERF		.50	** PERFORMANCE RATIOS **		1.00		.50	.50	.00	

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
GROUNDING P41

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

GROUNDING	B09P41 LF	950	1000	1000	0	302	227	227	0	.318	.227	.227	.000
GROUNDING	B23P41 LF	1500	2020	2020	0	480	445	445	0	.320	.220	.220	.000
GROUNDING	B28P41 LF	700	480	480	0	225	83	83	0	.321	.173	.173	.000
GROUNDING	B29P41 LF	300	400	400	0	160	81	81	0	.533	.203	.203	.000
GROUNDING	B32P41 LF	1340	1825	1825	0	488	425	425	0	.364	.233	.233	.000
GROUNDING	C50P41 LF	58380	17306	17306	0	9170	3019	3019	0	.157	.174	.174	.000
GROUNDING	C51P41 LF	2200	1000	1000	0	864	263	263	0	.393	.263	.263	.000
GROUNDING	C52P41 LF	2200	860	860	0	864	177	177	0	.393	.206	.206	.000
GROUNDING	C53P41 LF	2200	540	540	0	864	220	220	0	.393	.407	.407	.000
GROUNDING	C54P41 LF	2000	1000	1000	0	800	365	365	0	.400	.365	.365	.000
GROUNDING	C55P41 LF	3000	2000	2000	0	1120	194	194	0	.373	.097	.097	.000
GROUNDING	C56P41 LF	1000	0	0	0	480	0	0	0	.480	.000	.000	.000
**TOTAL GROUNDING		75770	28431	28431	0	15817	5499	5499	0	.209	.193	.193	.000
TREND FORECAST MH		5499	TREND FORECAST PERF		.808	** PERFORMANCE RATIOS **				1.000	.808	.808	.000
GROUNDING	A16P41 UNITS	10900	21815	21815	0	3487	2495	2580	48	.320	.114	.118	.000
**TOTAL GROUNDING		10900	21815	21815	0	3487	2495	2580	48	.320	.114	.118	.000
TREND FORECAST MH		2580	TREND FORECAST PERF		.370	** PERFORMANCE RATIOS **				1.000	.358	.370	.000

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JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
GROUNDWELLS P42

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT	#004	DATE	WEEK	#004	DATE	WEEK	#004	DATE	#004	DATE	WEEK	WEEK

INSTALL GROUND WELL	A16P42 EA	100	100	100	0	236	115	115	0	2.36	1.15	1.15	.00
GROUND WELL INSTALLA	C50P42 EA	100	101	101	0	356	535	535	0	3.56	5.30	5.30	.00
GROUND WELL INSTALLA	C51P42 EA	100	100	100	0	237	659	659	0	2.37	6.59	6.59	.00
GROUNDWELL INSTALLAT	C52P42 EA	100	100	100	0	237	180	180	0	2.37	1.80	1.80	.00
GROUND WELL INSTALLA	C53P42 EA	100	117	117	0	237	367	367	0	2.37	3.14	3.14	.00
GROUND WELL INSTALLA	C54P42 EA	100	100	100	0	237	350	350	0	2.37	3.50	3.50	.00
GROUND WELL INSTALLA	C55P42 EA	100	101	101	0	237	201	201	0	2.37	1.99	1.99	.00
**TOTAL GROUNDWELLS		700	719	719	0	1777	2407	2407	0	2.54	3.35	3.35	.00
TREND FORECAST MH	2407	TREND FORECAST PERF	1.32	** PERFORMANCE RATIOS **	1.00	1.32	1.32	.00					

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
ELECT HEAT TRACING P43

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK
ELECT HEAT TRACING	A16P43 LF	8600	2500	2500	0	8256	2011	1888	112	.960	.804	.755	.000
ELECTRIC HEAT TRACIN	B09P43 LF	800	50	50	0	2517	50	50	0	3.146	1.000	1.000	.000
ELECT HEAT TRACING	B21P43 LF	300	2800	2800	0	320	622	622	0	1.067	.222	.222	.000
ELECTRIC HEAT TRACIN	B23P43 LF	3850	0	0	0	3775	0	0	0	.981	.000	.000	.000
ELECT HEAT TRACING	B28P43 LF	2700	5300	5300	0	2640	1930	1930	0	.978	.364	.364	.000
ELECTRIC HEAT TRACIN	B29P43 LF	1025	0	0	0	1025	0	0	0	1.000	.000	.000	.000
ELECT HEAT TRACING	B32P43 LF	650	1600	1600	0	640	383	383	0	.985	.239	.239	.000
ELECT HEAT TRACING	C52P43 LF	3125	0	0	0	2000	15	15	0	.640	.000	.000	.000
ELECTRIC HEAT TRACIN	C66P43 LF	100	40	40	0	98	32	32	0	.980	.800	.800	.000
**TOTAL	ELECT HEAT TRACING	21150	12290	12290	0	21271	5043	4920	112	1.006	.410	.400	.000
TREND FORECAST MH		4920	TREND FORECAST PERF		.399	** PERFORMANCE RATIOS **				1.000	.409	.399	.000

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
O/H POLE LINE DIST P50

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	QUANTITY				MANHOURS				UNIT MANHOURS			
ACCT#	QUANT	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
			#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK
O/H POWER DISIRIBUTI	A16P50 LF	13	0	0	0	9	0	0	0	.69	.00	.00	.00
O/H POWER DISTRIBUTI	B23P50 LF	53	1725	1725	0	10	240	240	0	.19	.14	.14	.00
O/H POWER DISTRIBUTI	B30P50 LF	2386	13400	13400	0	1279	3248	3248	0	.54	.24	.24	.00
O/H POWER DISTRIBUTI	B32P50 LF	2500	0	0	0	960	2	0	0	.38	.00	.00	.00
**TOTAL	O/H POLE LINE DIST	4952	15125	15125	0	2258	3490	3488	0	.46	.23	.23	.00
TREND FORECAST MH		3488	TREND FORECAST PERF		.46	** PERFORMANCE RATIOS **				1.00	.46	.46	.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
TESTING P80

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT OF	BUDGET	QUANTITY	TO	THIS	BUDGET	MANHOURS	TO	THIS	BUDGET	UNIT	TO	THIS
ACCT#	QUANT		FCST	DATE	WEEK		FCST	DATE	WEEK		#004	DATE	WEEK

ELECT TESTING & CHEC A16P80 UNITS		100	100	100	0	1280	1949	1961	12	12.80	19.49	19.61	.00
ELECTRICAL TEST & CH B09P80 UNITS		100	100	100	0	250	158	158	0	2.50	1.58	1.58	.00
ELECT TESTING & CHEC B23P80 UNITS		100	100	100	0	385	364	364	0	3.85	3.64	3.64	.00
ELECT TESTING & CHEC B30P80 UNITS		100	100	100	0	160	87	87	0	1.60	.87	.87	.00
ELECT TESTING & CHEC C50P80 UNITS		100	19	19	0	1919	369	369	0	19.19	19.42	19.42	.00
**TOTAL TESTING		500	419	419	0	3994	2927	2939	12	7.99	6.99	7.01	.00
TREND FORECAST MH		2939	TREND FORECAST PERF	1.20	** PERFORMANCE RATIOS **	1.00	1.20	1.20	.00				

GARRARD 00000787

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
ELECT DISCONNECTS P90

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT OF	BUDGET	QUANTITY FCST	TO THIS	BUDGET	MANHOURS FCST	TO THIS	BUDGET	UNIT MANHOURS FCST	TO THIS	
ACCT#	QUANT		#004	DATE	WEEK	#004	DATE	WEEK	#004	DATE	WEEK

ELECTRONIC DISCONN	C51P90 EA	233	13	13	0	439	27	27	0	1.88	2.08
ELECTRONIC DISCONN	C53P90 EA	1	0	0	0	4	0	0	0	4.00	.00
ELECTRONIC DISCONN	C54P90 EA	66	0	0	0	218	14	14	0	3.30	.00
ELECTRONIC DISCONN	C55P90 EA	154	0	0	0	397	7	7	0	2.58	.00
ELECTRONIC DISCONN	C56P90 EA	119	0	0	0	276	0	0	0	2.32	.00
REMOVE EXIST INSTR	- C61P90 EA	20	380	380	0	41	384	384	0	2.05	1.01
REMOVE EXIST INSTR	- C62P90 EA	160	296	296	0	320	351	351	0	2.00	1.19
REMOVE EXIST INSTR	- C63P90 EA	39	78	78	0	156	244	244	0	4.00	3.13
REMOVE EXIST INSTR	- C64P90 EA	10	92	92	0	33	37	37	0	3.30	.40
REMOVE EXIST INSTR	- C65P90 EA	32	120	120	0	83	185	185	0	2.59	1.54
REMOVE EXIST INSTR	- C66P90 EA	19	241	241	0	44	259	259	0	2.32	1.07
**TOTAL ELECT DISCONNECTS		853	1220	1220	0	2011	1508	1508	0	2.36	1.24
TREND FORECAST MH		1508	TREND FORECAST PERF		.52	** PERFORMANCE RATIOS **		1.00	.52	.52	.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
ELECT DEMOLITION P95

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	QUANTITY				MANHOURS				UNIT MANHOURS				
	OF	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	
	ACCT#	QUANT	#004	DATE	WEEK	#004	DATE	WEEK	#004	DATE	WEEK			

DSPOS&RMOVL OF EXST C50P95 UNITS		1	100	100	0	1	372	372	0	1.00	3.72	3.72	.00	
**TOTAL ELECT DEMOLITION		1	100	100	0	1	372	372	0	1.00	3.72	3.72	.00	
TREND FORECAST MH		372	TREND FORECAST PERF			3.72	** PERFORMANCE RATIOS **			1.00	3.72	3.72	.00	

GARRARD 00000789

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
MATERIAL HANDLING P99

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT OF ACCT# QUANT	QUANTITY				MANHOURS				UNIT MANHOURS			
		BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
			#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

SECOND DROP MAT HAND A16P99 BMHRS	1	2000	2000	0	1	1799	1799	0	1.00	.90	.90	.00	
SECOND DROP MAT HAND B23P99 BMHRS	1	0	0	0	1	0	0	0	1.00	.00	.00	.00	
**TOTAL MATERIAL HANDLING					2	1799	1799	0					
TREND FORECAST MH	1799	TREND FORECAST PERF	.90	** PERFORMANCE RATIOS **	1.00	.90	.90	.00					

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
FABRICATE REBAR Q01

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK
FABRICATE REBAR	A16Q01 TONS	45	45	45	0	715	1266	1266	0	15.89	28.13	28.13	.00
FABRICATE REBAR	B23Q01 TONS	1	10	10	0	16	1285	1285	0	16.00	128.50	128.50	.00
**TOTAL FABRICATE REBAR		46	55	55	0	731	2551	2551	0	15.89	46.38	46.38	.00
TREND FORECAST MH		2551	TREND FORECAST PERF		2.92	** PERFORMANCE RATIOS **				1.00	2.92	2.92	.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MGC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
FOUNDATN CONCRETE Q11

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 115 OF 121

ACCOUNT DESCRIPTION	UNIT	QUANTITY				MANHOURS				UNIT MANHOURS			
OF	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	
ACCT#	QUANT	#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK	

PLACE FOUNDATION CON A16Q11 CY	2646	4628	4627	0	6350	11098	11098	0	2.40	2.40	2.40	.00	
PLACE FOUNDATION CON B09Q11 CY	122	133	133	0	317	391	391	0	2.60	2.94	2.94	.00	
PLACE FOUNDATION CON B23Q11 CY	412	410	410	0	1059	2090	2090	0	2.57	5.10	5.10	.00	
PLACE FOUNDATION CON B28Q11 CY	142	81	81	0	335	250	250	0	2.36	3.09	3.09	.00	
PLACE FOUNDATION CON B32Q11 CY	335	685	685	0	642	3100	3100	0	1.92	4.53	4.53	.00	
**TOTAL FOUNDATN CONCRETE	3657	5937	5936	0	8703	16929	16929	0	2.38	2.85	2.85	.00	
TREND FORECAST MH	16931	TREND FORECAST PERF	1.21	** PERFORMANCE RATIOS **				1.00	1.21	1.21	.00		

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
STRUCT CONCRETE Q12

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT OF ACCT#	QUANTITY				MANHOURS				UNIT MANHOURS			
		BUDGET	FCST	TO THIS	BUDGET	FCST	TO THIS	BUDGET	FCST	TO THIS			
		#004	#004	DATE	WEEK	#004	#004	DATE	WEEK	#004	#004	DATE	WEEK
PLACE STRUCTURAL CON A16Q12 CY		2251	2275	2275	0	8643	9037	9037	0	3.84	3.97	3.97	.00
PLACE STRUCTURAL CON B23Q12 CY		10	114	114	0	38	442	442	0	3.80	3.88	3.88	.00
**TOTAL STRUCT CONCRETE		2261	2389	2389	0	8681	9479	9479	0	3.84	3.97	3.97	.00
TREND FORECAST MH		9479	TREND FORECAST PERF	1.03	** PERFORMANCE RATIOS **	1.00	1.03	1.03	.00				

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
OTHER CONCRETE Q15

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	QUANTITY			MANHOURS			UNIT MANHOURS		
ACCT#	QUANT	BUDGET	FCST	TO	BUDGET	FCST	TO	BUDGET	FCST	TO
		#004	#004	DATE	#004	#004	DATE	#004	#004	DATE
PLACE OTHER CONCRETE A16Q15 CY		239	333	333	0	797	204	204	0	3.33
**TOTAL OTHER CONCRETE		239	333	333	0	797	204	204	0	3.33
TREND FORECAST MH	204	TREND FORECAST PERF			.18	** PERFORMANCE RATIOS **			1.00	.18

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
FOUND REBAR Q21

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT OF	BUDGET	QUANTITY FCST	TO DATE	THIS WEEK	BUDGET	MANHOURS FCST	TO DATE	THIS WEEK	BUDGET	UNIT FCST	TO DATE	THIS WEEK
ACCT#	QUANT		#004				#004				#004		

PLACE FOUNDATION REB A16Q21	TONS	132	401	401	0	3180	11622	11622	0	24.09	28.98	28.98	.00
PLACE FOUNDATION REB B09Q21	TONS	5	7	7	0	126	715	715	0	25.20	102.14	102.14	.00
PLACE FOUNDATION REB B23Q21	TONS	16	27	27	0	359	2016	2016	0	22.44	74.67	74.67	.00
PLACE FOUNDATION REB B28Q21	TONS	5	4	4	0	107	435	435	0	21.40	108.75	108.75	.00
PLACE FOUNDATION REB B32Q21	TONS	38	32	32	0	575	2935	2935	0	15.13	91.72	91.72	.00
**TOTAL FOUND REBAR		196	471	471	0	4347	17723	17723	0	22.18	37.63	37.63	.00
TREND FORECAST MH		17723	TREND FORECAST PERF		1.61	** PERFORMANCE RATIOS **				1.00	1.61	1.61	.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
STRUCT REBAR Q22

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT OF	BUDGET	QUANTITY	TO	THIS	BUDGET	MANHOURS	TO	THIS	BUDGET	UNIT	MANHOURS	TO	THIS
ACCT#	QUANT		FCST	DATE	WEEK		FCST	DATE	WEEK		#004	DATE	WEEK	

PLACE STRUCTURAL REB A16Q22	TONS	223	341	340	0	2858	21953	21953	0	12.82	64.38	64.57		.00
PLACE STRUCTURAL REB B23Q22	TONS	1	10	10	0	13	1199	1199	0	13.00	119.90	119.90		.00
**TOTAL STRUCT REBAR		224	351	350	0	2871	23152	23152	0	12.82	65.96	66.15		.00
TREND FORECAST MH		23237	TREND FORECAST PERF		5.16	** PERFORMANCE RATIOS **				1.00	5.14	5.16		.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
OTHER REBAR Q25

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	QUANTITY				MANHOURS				UNIT MANHOURS			
	OF	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

PLACE OTHER REBAR	A16Q25 TONS	16	0	0	0	375	0	0	0	23.44	.00	.00	.00
**TOTAL	OTHER REBAR	16	0	0	0	375	0	0	0	23.44	.00	.00	.00
TREND FORECAST MH		0	TREND FORECAST PERF		.00	** PERFORMANCE RATIOS **				1.00	.00	.00	.00

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
STRUCT FORMS Q32

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	QUANTITY				MANHOURS				UNIT MANHOURS			
ACCT#	QUANT	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
			#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK
PLACE & STRIP STR FO A16Q32 SF		37906	70113	70113	0	16672	54213	54213	0	.44	.77	.77	.00
PLACE & STRIP STR FO B23Q32 SF		98	6326	6326	0	44	3919	3919	0	.45	.62	.62	.00
**TOTAL STRUCT FORMS		38004	76439	76439	0	16716	58132	58132	0	.44	.76	.76	.00
TREND FORECAST MH		58132	TREND FORECAST PERF		1.73	** PERFORMANCE RATIOS **				1.00	1.73	1.73	.00

JOB NO. 14053-C00
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
OTHER FORMS Q35

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT OF	BUDGET	QUANTITY	TO	THIS	BUDGET	MANHOURS	TO	THIS	BUDGET	UNIT	MANHOURS	
ACCT#	QUANT		FCST	DATE	WEEK		FCST	DATE	WEEK		FCST	TO	THIS
			#004				#004				#004	DATE	WEEK

PLACE & STRIP OTHER	A16Q35 SF	1640	0	0	0	735	0	0	0	.45	.00	.00	.00
**TOTAL OTHER FORMS		1640	0	0	0	735	0	0	0	.45	.00	.00	.00
TREND FORECAST MH		0	TREND FORECAST PERF		.00	** PERFORMANCE RATIOS **		1.00	.00	.00	.00		

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
MISC CONC (COMP) Q40

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	QUANTITY				MANHOURS				UNIT MANHOURS			
ACCT#	QUANT	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
			#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

PLACE CONCRTE(COMPOS A31Q40	CY	57	12	12	0	400	438	438	0	7.02	36.50	36.50	.00
PLACE CONCRTE(COMPOS B20Q40	CY	7	0	0	0	100	0	0	0	14.29	.00	.00	.00
PLACE CONCRTE(COMPOS B21Q40	CY	82	217	217	0	1362	2698	2698	0	16.61	12.43	12.43	.00
PLACE CONCRTE(COMPOS B29Q40	CY	43	29	29	0	810	581	581	0	18.84	20.03	20.03	.00
PLACE CONCRTE(COMPOS C50Q40	CY	11	36	36	0	220	902	902	0	20.00	25.06	25.06	.00
**TOTAL MISC CONC (COMP)		200	294	294	0	2892	4619	4619	0	14.46	15.71	15.71	.00
TREND FORECAST MH		4619	TREND FORECAST PERF		.93	** PERFORMANCE RATIOS **		1.00		.93	.93	.00	

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
PRECAST CONCRETE Q61

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

PLACE PRECAST CONCRE A16Q61	CY	478	410	410	0	1147	1780	1780	0	2.40	4.34	4.34	.00
PLACE PRECAST CONCRE B23Q61	CY	10	171	171	0	24	557	557	0	2.40	3.26	3.26	.00
**TOTAL PRECAST CONCRETE		488	581	581	0	1171	2337	2337	0	2.40	4.02	4.02	.00
TREND FORECAST MH		2337	TREND FORECAST PERF	1.68		** PERFORMANCE RATIOS **				1.00	1.68	1.68	.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
PRECAST REBAR Q62

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	QUANTITY				MANHOURS				UNIT MANHOURS			
ACCT#	OF QUANT	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
			#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

PLACE PRECAST REBAR	A16Q62 TONS	82	139	139	0	1312	4193	4193	0	16.00	30.17	30.17	.00
PLACE PRECAST REBAR	B23Q62 TONS	1	28	28	0	16	1531	1531	0	16.00	54.68	54.68	.00
**TOTAL PRECAST REBAR						1328	5724	5724	0				
TREND FORECAST MH		5724	TREND FORECAST PERF	2.14		** PERFORMANCE RATIOS **				1.00	2.14	2.14	.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
PRECAST FORMWORK Q63

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT OF QUANT	BUDGET	QUANTITY FCST #004	TO DATE	THIS WEEK	BUDGET	MANHOURS FCST #004	TO DATE	THIS WEEK	BUDGET	UNIT FCST #004	TO DATE	THIS WEEK

PLACE PRECAST FORMS A16Q63 SF		17700	13015	13015	0	7222	9871	9871	0	.41	.76	.76	.00
PLACE PRECAST FORMS B23Q63 SF		10	7541	7541	0	4	5676	5676	0	.40	.75	.75	.00
**TOTAL PRECAST FORMWORK		17710	20556	20556	0	7226	15547	15547	0	.41	.76	.76	.00
TREND FORECAST MH		15547	TREND FORECAST PERF		1.87	** PERFORMANCE RATIOS **				1.00	1.87	1.87	.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
SET PRECST ITEMS Q69

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	QUANTITY				MANHOURS				UNIT MANHOURS			
ACCT#	OF	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
QUANT			#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

SET PRECAST CONC ITE A16Q69 CY		478	410	410	0	3824	7226	7226	0	8.00	17.62	17.62	.00
SET PRECAST CONC ITE B23Q69 CY		10	173	173	0	80	3619	3619	0	8.00	20.92	20.92	.00
**TOTAL SET PRECST ITEMS		488	583	583	0	3904	10845	10845	0	8.00	18.60	18.60	.00
TREND FORECAST MH		10845	TREND FORECAST PERF		2.33	** PERFORMANCE RATIOS **				1.00	2.33	2.33	.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
CONCRETE PAVING Q71

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT OF	BUDGET	QUANTITY FCST	TO DATE	THIS WEEK	BUDGET	FCST	TO DATE	THIS WEEK	BUDGET	FCST	TO DATE	THIS WEEK
ACCT#	QUANT		#004				#004				#004		

PLACE CONCRETE PAVING A16Q71 SF		70470	36000	36000	0	11275	3894	3894	0	.16	.11	.11	.00
PLACE CONCRETE PAVIN B09Q71 SF		4080	4080	4080	0	660	340	340	0	.16	.08	.08	.00
PLACE CONCRETE PAVIN B23Q71 SF		21990	21990	21990	0	5592	2760	2760	0	.25	.13	.13	.00
PLACE CONCRETE PAVIN B29Q71 SF		2534	500	500	0	585	25	25	0	.23	.05	.05	.00
**TOTAL CONCRETE PAVING		99074	62570	62570	0	18112	7019	7019	0	.18	.11	.11	.00
TREND FORECAST MH		7019	TREND FORECAST PERF		.58	** PERFORMANCE RATIOS **				1.00	.58	.58	.00

GARRARD 00000806

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
CONDUIT ENVELOPES Q73

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	OF QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

PLACE CONC ENVELOPES A16Q73 CY		690	685	685	0	3312	3443	3443	0	4.80	5.03	5.03	.00
PLACE CONCRETE ENVEL B23Q73 CY		93	108	108	0	445	1258	1258	0	4.78	11.65	11.65	.00
PLACE CONCRETE ENVEL B29Q73 CY		18	0	0	0	105	0	0	0	5.83	.00	.00	.00
PLACE CONCRETE ENVEL B30Q73 CY		9	10	10	0	100	2	2	0	11.11	.20	.20	.00
PLACE CONCRETE ENVEL B32Q73 CY		30	16	16	0	105	338	338	0	3.50	21.13	21.13	.00
PLACE CONCRETE ENVEL C50Q73 CY		81	113	113	0	380	483	483	0	4.69	4.27	4.27	.00

**TOTAL CONDUIT ENVELOPES		921	932	932	0	4447	5524	5524	0	4.83	5.93	5.93	.00

TREND FORECAST MH		5524	TREND FORECAST PERF	1.23	** PERFORMANCE RATIOS **					1.00	1.23	1.23	.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
MISCELL ARCHITECT RO1

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	QUANTITY				MANHOURS				UNIT MANHOURS			
ACCT#	OF QUANT	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
			#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

BUILDINGS	B23R01 MHRS	0	0	0	0	0	0	0	0	.00	.00	.00	.00
**TOTAL MISCELL ARCHITECT		0	0	0	0	0	0	0	0	.00	.00	.00	.00
TREND FORECAST MH		0		TREND FORECAST PERF	.00	** PERFORMANCE RATIOS **				.00	.00	.00	.00
CONTROL ROOM ARCHITE	C50R01 UNITS	100	100	100	0	1751	1806	1806	0	17.51	18.06	18.06	.00
COKE CR STRUCTURAL	C54R01 UNITS	0	0	0	0	0	0	0	0	.00	.00	.00	.00
**TOTAL MISCELL ARCHITECT		100	100	100	0	1751	1806	1806	0	17.51	18.06	18.06	.00
TREND FORECAST MH		1806		TREND FORECAST PERF	1.03	** PERFORMANCE RATIOS **				1.00	1.03	1.03	.00

GARRARD 00000808

F O C U S
QUANTITY AND UNIT RATE REPORT
ELECTRICAL SUBSTAT R03

PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

GARRARD 00000809

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION		UNIT OF	QUANTITY				MANHOURS				UNIT MANHOURS			
ACCT#	QUANT	BUDGET	FCST #004	TO DATE	THIS WEEK	BUDGET	FCST #004	TO DATE	THIS WEEK	BUDGET	FCST #004	TO DATE	THIS WEEK	

BOILER FEED WATER BL A16R10 UNITS		100	100	100	0	270	650	619	0	2.70	6.50	6.19	.00	
CHEMICAL INJECTION B B32R10 UNITS		100	100	100	0	145	1302	1302	0	1.45	13.02	13.02	.00	
**TOTAL BUILDING						415	1952	1921	0					
TREND FORECAST MH		1921	TREND FORECAST PERF			4.63	** PERFORMANCE RATIOS **			1.00	4.70	4.63	.00	

JOB NO. 14053-000
ROBINSON REFINERY MODERNIZATION PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
SATELLITE CONTROL RM. R20

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT OF	BUDGET	QUANTITY	TO	THIS	BUDGET	MANHOURS	TO	THIS	BUDGET	UNIT	MANHOURS	TO	THIS
ACCT#	QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK	

SATELLITE CONTROL RO A16R20 UNITS		100	100	100	0	350	1300	1298	0	3.50	13.00	12.98		.00
**TOTAL SATELLITE CONTROL RM.						350	1300	1298	0					
TREND FORECAST MH		1298	TREND FORECAST PERF		3.71	** PERFORMANCE RATIOS **				1.00	3.71	3.71		.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
PACKAGED BLDGS R90

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	QUANTITY				MANHOURS				UNIT MANHOURS			
ACCT#	OF	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
	QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

BUILDING WORK	B09R90 UNITS	100	0	0	0	240	0	0	0	2.40	.00	.00	.00
**TOTAL	PACKAGED BLDGS	100	0	0	0	240	0	0	0	2.40	.00	.00	.00
TREND FORECAST MH		0	TREND FORECAST PERF		.00	** PERFORMANCE RATIOS **		1.00		.00	.00	.00	.00

ACCOUNT DESCRIPTION		UNIT	QUANTITY				MANHOURS				UNIT MANHOURS			
	OF	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	
ACCT#	QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK	

REVAMP EXISTING BLDG B23R95	UNITS	100	100	100	0	299	756	756	0	2.99	7.56	7.56	.00	
**TOTAL	REVAMP EXIST BLDGS	100	100	100	0	299	756	756	0	2.99	7.56	7.56	.00	
TREND FORECAST MH		756	TREND FORECAST PERF			2.53	** PERFORMANCE RATIOS **				1.00	2.53	2.53	.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
DEWATERING S03

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	OF	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT			#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

DEWATERING	A16S03	BMHRS	2800	4100	4100	0	2800	4673	4673	0	1.00	1.14	1.14	.00
DEWATERING	B23S03	BMHRS	870	870	870	0	875	4306	4306	0	1.01	4.95	4.95	.00
**TOTAL DEWATERING			3670	4970	4970	0	3675	8979	8979	0	1.00	1.81	1.81	.00
TREND FORECAST MH			8979	TRENC FORECAST PERF		1.80	** PERFORMANCE RATIOS **				1.00	1.80	1.80	.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
EXCAVATION&DISPOS L S11

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 CF 121

ACCOUNT DESCRIPTION	UNIT OF	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

EXCAVATION & DISPOSA A16S11 CY		1702	2900	2900	0	4953	4804	4804	0	2.91	1.66	1.66	.00
EXCAVATION & DISPOSA A31S11 CY		60	60	60	0	230	243	243	0	3.83	4.05	4.05	.00
EXCAVATION & DISPOSA B09S11 CY		800	653	653	0	1611	1324	1324	0	2.01	2.03	2.03	.00
EXCAVATION & BACKFIL B20S11 CY		13	0	0	0	40	0	0	0	3.08	.00	.00	.00
EXCAVATION & DISPOSA B21S11 CY		1305	469	469	0	3465	1107	1107	0	2.66	2.36	2.36	.00
EXCAVATION & DISPOSA B23S11 CY		2664	3745	3745	0	3560	4535	4490	0	1.34	1.21	1.20	.00
EXCAVATION & DISPOSA B29S11 CY		440	126	126	0	690	916	916	0	1.57	7.27	7.27	.00
EXCAVATION & DISPOSA B30S11 CY		34	10	10	0	70	8	8	0	2.06	.80	.80	.00
EXCAVATION & DISPOSA B32S11 CY		1268	3088	3088	0	1459	3368	3368	0	1.15	1.09	1.09	.00
EXCAVATION & DISPOSA C50S11 CY		350	165	165	0	401	837	837	0	1.15	5.07	5.07	.00
**TOTAL EXCAVATION&DISPOS L		8636	11216	11216	0	16479	17142	17097	0	1.91	1.53	1.52	.00
TREND FORECAST MH		17097	TREND FORECAST PERF		.85	** PERFORMANCE RATIOS **		1.00		.85	.85	.00	

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
BACKFILL&COMPACTIN S12

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

BACKFILL & COMPACTIO	A16S12 CY	9765	5883	5883	0	7547	5951	5951	0	.77	1.01	1.01	.00
BACKFILL & COMPACTIO	A31S12 CY	103	50	50	0	370	34	34	0	3.59	.68	.68	.00
BACKFILL & COMPACTIO	B09S12 CY	650	499	499	0	348	310	310	0	.54	.62	.62	.00
BACKFILL & COMPACTIO	B21S12 CY	1224	288	288	0	535	333	333	0	.44	1.16	1.16	.00
BACKFILL COMPACTIO	B23S12 CY	2711	3676	3676	0	1060	3671	3671	0	.39	1.00	1.00	.00
BACKFILL & COMPACTIO	B29S12 CY	437	88	88	0	215	261	261	0	.49	2.97	2.97	.00
BACKFILL & COMPACTIO	B30S12 CY	25	8	8	0	30	0	0	0	1.20	.00	.00	.00
BACKFILL & COMPACTIO	B32S12 CY	1840	2958	2958	0	450	3267	3267	0	.24	1.10	1.10	.00
BACKFILL & COMPACTIO	C50S12 CY	260	107	107	0	214	264	264	0	.82	2.47	2.47	.00
**TOTAL	BACKFILL&COMPACTIN	17015	13557	13557	0	10769	14091	14091	0	.63	1.04	1.04	.00
TREND FORECAST MH		14103	TREND FORECAST PERF		1.90	** PERFORMANCE RATIOS **				1.00	1.90	1.90	.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
SEWERS & DRAINAGE S31

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT OF QUANT	BUDGET	FCST #004	TO DATE	THIS WEEK	BUDGET	FCST #004	TO DATE	THIS WEEK	BUDGET	FCST #004	TO DATE	THIS WEEK

SEWERS & DRAINAGE	A16S31 LF	3670	3161	3161	0	2468	3415	3415	0	.67	1.08	1.08	.00
SEWERS & DRAINAGE	B09S31 LF	300	287	287	0	171	1209	1209	0	.57	4.21	4.21	.00
SEWERS & DRAINAGE	B23S31 LF	1033	1537	1537	0	688	3366	3366	0	.67	2.19	2.19	.00
SEWERS & DRAINAGE	B29S31 LF	174	179	179	0	170	400	400	0	.98	2.23	2.23	.00
SEWERS & DRAINAGE	B32S31 LF	1000	976	976	0	4262	3329	3329	0	4.26	3.41	3.41	.00
SEWERS & DRAINS	B99S31 LF	40	90	90	0	25	189	189	0	.63	2.10	2.10	.00
**TOTAL SEWERS & DRAINAGE		6217	6230	6230	0	7784	11908	11908	0	1.25	1.91	1.91	.00
TREND FORECAST MH		11908	TREND FORECAST PERF		1.55	** PERFORMANCE RATIOS **				1.00	1.55	1.55	.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
PRECAST MANHOLES S32

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION		UNIT	QUANTITY				MANHOURS				UNIT MANHOURS			
ACCT#	QUANT		BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS

PRECAST MANHOLES	B09S32	EA	1	1	1	0	136	4	4	0	136.00	4.00	4.00	.00
PRECAST MANHOLES	B23S32	EA	7	8	8	0	855	579	579	0	122.14	72.38	72.38	.00
PRECAST MANHOLES	B32S32	EA	4	6	6	0	280	837	837	0	70.00	139.50	139.50	.00
**TOTAL PRECAST MANHOLES			12	15	15	0	1271	1420	1420	0	105.92	94.67	94.67	.00
TREND FORECAST MH			1420	TREND FORECAST PERF			.93	** PERFORMANCE RATIOS **			1.00	.93	.93	.00
PRECAST MANHOLES	A16S32	UNITS	2000	2400	2400	0	2450	3038	3038	0	1.23	1.27	1.27	.00
**TOTAL PRECAST MANHOLES			2000	2400	2400	0	2450	3038	3038	0	1.23	1.27	1.27	.00
TREND FORECAST MH			3038	TREND FORECAST PERF			1.03	** PERFORMANCE RATIOS **			1.00	1.03	1.03	.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
FINE GRADING&LEVIG S41

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT OF QUANT	BUDGET	FCST	TO DATE	THIS WEEK	BUDGET	FCST	TO DATE	THIS WEEK	BUDGET	FCST	TO DATE	THIS WEEK
ACCT#	QUANT	#004	#004	#004	#004	#004	#004	#004	#004	#004	#004	#004	#004
FINE GRADING & LEVEL A16S41 SF		70470	46872	46872	0	6146	1900	1781	0	.09	.04	.04	.00
FINE GRADING & LEVEL B09S41 SF		2200	2200	2200	0	215	65	65	0	.10	.03	.03	.00
FINEGRADING & LEVELL B23S41 SF		21990	21990	21990	0	1925	768	920	0	.09	.03	.04	.00
FINEGRADING & LEVELI B29S41 SF		2534	500	500	0	225	66	66	0	.09	.13	.13	.00
FINE GRADING & LEVEL B32S41 SF		10	3400	3400	0	1	413	413	0	.10	.12	.12	.00
**TOTAL FINE GRADING&LEVIG		97204	74962	74962	0	8512	3212	3245	0	.09	.04	.04	.00
TREND FORECAST MH		3245	TREND FORECAST PERF		.49	** PERFORMANCE RATIOS **		1.00		.49	.49	.00	

JOB NO. 14053-000
ROBINSON REFIARY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
DEMOLITION S98

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT OF QUANT	BUDGET	FCST #004	TO DATE	THIS WEEK	BUDGET	FCST #004	TO DATE	THIS WEEK	BUDGET	FCST #004	TO DATE	THIS WEEK

DEMOLITION	B23S98 UNITS	100	100	100	0	4496	6613	6613	0	44.96	66.13	66.13	.00
**TOTAL DEMOLITION		100	100	100	0	4496	6613	6613	0	44.96	66.13	66.13	.00
TREND FORECAST MH		6613	TREND FORECAST PERF		1.47	** PERFORMANCE RATIOS **				1.00	1.47	1.47	.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MGC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
S/C SUPPLIED DISTR XXX

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	QUANTITY				MANHOURS				UNIT MANHOURS			
ACCT#	OF	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
QUANT			#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

MORRIS DISTRIBUTABLE	S09XXX	BMHRS	1	0	0	0	1	425	1091	0	1.00	.00	.00
ALLEN-DISTRIBUTABLES	S29XXX	BMHRS	0	0	0	0	0	230	759	0	.00	.00	.00
HOKE-DISTRIBUTABLES	S32XXX	BMHRS	0	0	0	0	0	200	205	0	.00	.00	.00
**TOTAL S/C SUPPLIED DISTR			1	0	0	0	1	855	2055	0	1.00	.00	.00
TREND FORECAST MH		2055	TREND FORECAST PERF		.00	** PERFORMANCE RATIOS **				1.00	.00	.00	.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
PAINTING FSC35 X10

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	-----QUANTITY-----	-----MANHOURS-----	-----UNIT MANHOURS-----									
OF	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	
ACCT#	QUANT	#004	DATE	WEEK	#004	DATE	WEEK	#004	DATE	WEEK	#004	DATE	WEEK

PAINTING	FSC S00X10 SF	75800	57760	37885	3775	8340	2750	1730	224	.11	.05	.05	.06
**TOTAL PAINTING	FSC35	75800	57760	37885	3775	8340	2750	1730	224	.11	.05	.05	.06
TREND FORECAST MH		2638	TREND FORECAST PERF		.42	** PERFORMANCE RATIOS **				1.00	.43	.42	.54

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
LARK PAINT FSC40 X40

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT	QUANTITY	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	OF	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO
*****	QUANT	#004	#004	DATE	WEEK	#004	#004	DATE	WEEK	#004	#004	DATE
LARK PAINTING	FS S00X40 SF	15000	19425	19425	0	750	899	899	0	.05	.05	.05
**TOTAL	LARK PAINT FSC40	15000	19425	19425	0	750	899	899	0	.05	.05	.05
TREND FORECAST MH		899	TREND FORECAST PERF		.93	** PERFORMANCE RATIOS **		1.00		.93	.93	.00

JOB NO. 14053-000
ROBINSON REFINRY MODERNZTN PROJ-MOC
REPORT NO. C38090-58

F O C U S
QUANTITY AND UNIT RATE REPORT
SCAFFOLDING Y10

DATE 5/24/82
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PERFORMANCE BASED ON BUDGET
WEEK ENDING 5/21/82 WEEK 116 OF 121

ACCOUNT DESCRIPTION	UNIT OF	QUANTITY				MANHOURS				UNIT MANHOURS			
		BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS	BUDGET	FCST	TO	THIS
ACCT#	QUANT		#004	DATE	WEEK		#004	DATE	WEEK		#004	DATE	WEEK

SCAFFOLDING	A16Y10 BMHRS	19186	25390	25390	0	19186	77607	77427	13	1.00	3.06	3.05	.00
SCAFFOLDING	A31Y10 BMHRS	746	0	0	0	746	0	0	0	1.00	.00	.00	.00
SCAFFOLDING	B23Y10 BMHRS	20928	20928	20928	0	20928	28735	28735	0	1.00	1.37	1.37	.00
SCAFFOLDING	C50Y10 BMHRS	1608	1384	1384	0	1608	1434	1434	0	1.00	1.04	1.04	.00
**TOTAL	SCAFFOLDING	42468	47702	47702	0	42468	107776	107596	13	1.00	2.26	2.26	.00
TREND FORECAST MH		107596	TREND FORECAST PERF		2.26	** PERFORMANCE RATIOS **				1.00	2.26	2.26	.00
SCAFFOLDING	B09Y10 MHRS	0	0	0	0	0	2052	2052	0	.00	.00	.00	.00
SCAFFOLDING	B24Y10 MHRS	0	0	0	0	0	1585	1585	0	.00	.00	.00	.00
SCAFFOLDING	B25Y10 MHRS	0	0	0	0	0	1982	1982	0	.00	.00	.00	.00
SCAFFOLDING	B28Y10 MHRS	0	0	0	0	0	964	964	0	.00	.00	.00	.00
SCAFFOLDING	B29Y10 MHRS	0	0	0	0	0	98	98	0	.00	.00	.00	.00
SCAFFOLDING	B32Y10 MHRS	0	0	0	0	0	1740	1740	0	.00	.00	.00	.00
SCAFFOLDING	B41Y10 MHRS	0	0	0	0	0	1479	1479	0	.00	.00	.00	.00
SCAFFOLDING	B42Y10 MHRS	0	0	0	0	0	920	920	0	.00	.00	.00	.00
SCAFFOLDING	B43Y10 MHRS	0	0	0	0	0	846	845	0	.00	.00	.00	.00
SCAFFOLDING	B44Y10 MHRS	0	0	0	0	0	4753	4753	0	.00	.00	.00	.00
SCAFFOLDING	B45Y10 MHRS	0	0	0	0	0	2368	2368	0	.00	.00	.00	.00
SCAFFOLDING	B99Y10 MHRS	0	0	0	0	0	104	104	0	.00	.00	.00	.00
**TOTAL	SCAFFOLDING	0	0	0	0	0	18891	18890	0	.00	.00	.00	.00
TREND FORECAST MH		18890	TREND FORECAST PERF		.00	** PERFORMANCE RATIOS **				.00	.00	.00	.00