DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF PLACEMENT FY08
ESTIMATE NO.: C2-2001-05-006 38
CLIENT: DOE
WBS NO.: 1.1.C.D

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: FERNALD
TASK NO.: CCPL3

ITEM NO.	SUMMARY	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST / UNIT Labor	COST / UNIT S/C	COST / UNIT Mat'l	COST / UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
1	Post Award Document (Bonds & Insurance)											$71,600			$71,600
2	Submittals				1,600						$80,210				$80,210
3	Overhead & Profit											$918,029			$918,029
4	Off Hour Dust Control											$20,000			$20,000
5	Control & Management (separate estimate)														
6	Site Prep				5,520						$161,580	$102,300	$6,230	$145,468	$415,578
7	OMTA Operations (including shutdown)				9,369						$250,750			$314,678	$565,428
8	Removal of Impacted portion Haul Rd				141						$3,770			$5,800	$9,570
9	Placement of 12" Protective Layer				705						$18,850			$9,710	$28,560
10	Placement of 24" Select Layer				1,325						$35,710			$13,840	$49,550
11	Placement of 36" Select Layer				2,312						$62,790		$480	$32,940	$96,210
12	Placement of CAT #1 1Q				2,570						$69,262			$30,986	$100,248
12	Placement of CAT #1 3&4Q				6,968						$187,777			$84,005	$271,782
13	Placement of CAT #2 & #4 Above Grade 1Q				74						$1,830			$1,595	
13	Placement of CAT #2 & #4 Above Grade 3&4Q				19,467						$481,889			$420,054	$901,943
14	Placement of CAT #3 Palletized Transits 1Q														
14	Placement of CAT #3 Palletized Transits 3&4Q				9,356						$256,750			$169,000	$425,750
15	Placement of CAT #5 Friable Asbestos 1Q														
15	Placement of CAT #5 Friable Asbestos 3&4Q														
16	Placement of CAT #2&#4 @ & Below Grade 1Q				1,964						$53,756			$51,133	$104,889
16	Placement of CAT #2&#4 @ & Below Grade 3&4Q				4,461						$122,089			$116,133	$238,222
17	Placement of CAT #5 Thorium/Soil Debris 1Q														
17	Placement of CAT #5 Thorium/Soil Debris 3&4Q														
al Pl	OSDF PLACEMENT				61,933	$32.14					$1,787,012	$1,111,929	$6,710	$1,395,348	$4,300,994

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PROJECT: OSDF PLACEMENT FY08
ESTIMATE NO.: C2-2001-05-006 38
CLIENT: DOE
WBS NO.: 1.1.C.D

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: FERNALD
TASK NO.: CCPL3

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
1	**Post Award Documents**														
	Bonds & Insurance (calculated on summary)	1	ls												
2	**Submittals** fy09 use 6ea 30 with 30 & 10 for tech														
	Plans allowance	12	ea	50.0	600	50.13					$30,080				$30,080
	Technical submittals allowance	100	ea	10.0	1000	50.13					$50,130				$50,130
					1600						$80,210				$80,210
4	**Off Hour Dust Control**														
	Off Hour Dust Control allowance	1	ls					20,000				$20,000			$20,000
5	Control & Management (separate estimate)														

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF PLACEMENT FY08
ESTIMATE NO.: C2-2001-05-006 38
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Fluor Fernald, Inc.

DATE: 17-May-01
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TASK NO.: CCPL3

PPE Level	OSDF PLACEMENT FY08	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	6 SITE PREP														
	Dust Control					Rate + 20%									
	CAT 613 Water wagon (2ea)	10	mo	2						3,770				$75,400	$75,400
	CAT 613 Water wagon (2ea)	2,559	hr	2						12.55				$64,218	$64,218
mD	Operator (9 months)	1,935	hr	1	2728	29.48					$80,440				$80,440
mD	Operator (5 months)	1,075	hr	1	1516	29.48					$44,690				$44,690
	Site Prep														
	Mobilization of equipment	10	hr	6	85	29.48				100.00	$2,490			$1,000	$3,490
	Silt fence	2,000	lf						0.30				$600		$600
mD	Laborer	40	hr	1	56	24.71					$1,390				$1,390
mD	Operator	40	hr	1	56	29.48					$1,660				$1,660
	CAT 416 backhoe	40	hr	1						25.17				$1,010	$1,010
	Straw bales	312	ea						2.50				$780		$780
mD	Laborer	15	hr	2	42	24.71					$1,050				$1,050
mD	Operator	15	hr	1	21	29.48					$620				$620
	CAT 416 backhoe	15	hr	1						25.17				$380	$380
	Install check dams/SIDs														
mD	Laborer	20	hr	2	56	24.71					$1,390				$1,390
mD	Operator	20	hr	1	28	29.48					$830				$830
mD	Teamster	20	hr	1	28	24.94					$700				$700
	CAT 330 TracHoe	20	hr	1						99.74				$1,990	$1,990
	Type D Rip Rap	12	tn	1					15.50				$190		$190
	Haul Truck	20	hr	1						73.62				$1,470	$1,470
	Construction/RAD fencing 4' wire w/ p	1,200	lf						2.83				$3,400		$3,400
mD	Laborer	20	hr	2	56	24.71					$1,390				$1,390
	Install const/grid signage	36	ea						35.00				$1,260		$1,260
	Site prep														
mD	Laborer	30	hr	2	85	24.71					$2,090				$2,090
	Survey														
	Survey crew	1	ls					102,300				$102,300			$102,300
	Training	30	hr	18	761	30.00					$22,840				$22,840
	Training based on HlthPhys Sheet														
	Site Prep		TLOT		8,620	32.27					$161,580	$102,300	$6,730	$145,468	$416,078

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF PLACEMENT FY08
ESTIMATE NO.: C2-2001-05-006 38
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Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: FERNALD
TASK NO.: CCPL3

PPE Level	OSDF PLACEMENT FY08	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	7 OMTA Operations (including Shutdown)														
	7 A apply to ea fiscal yr of FY04 - FY08														
	OMTA Operations thru shutdown														
	period (approx. 3 mo)														
	CAT 973 Track Loader/4way bucket	552	hr	1						107.95				$59,600	$59,600
	CAT 330 Excavator/grappler	552	hr	1						99.74				$55,060	$55,060
	Tractor (farm)	552	hr							37.57				$20,740	$20,740
mD	Foreman (3 mo)	650	hr	1	916	21.59					$19,770				$19,770
mD	Laborer (3 mo)	650	hr	2	1,832	20.59					$37,710				$37,710
mD	Operator (3 mo)	650	hr	1	916	24.57					$22,500				$22,500
						Rate + 20%									
mD	Teamster (9 mo)	1,949	hr	2	5,495	29.92					$164,420				$164,420
	ROB Truck (Site Owns)	1,656	hr	1						73.62				$121,931	$121,931
	CAT TH83 (9 mo)	1,656	hr	1						34.62				$57,346	$57,346
	Purchase of office trailer (8x12) FY04		ls					5,075.00							
	7 B Special for Lighting FY06 & FY07														
	Lighting double shift														
	2x5.5mx4		mo							-					
	7 B Special for FY04 - FY08														
	Training & Hiring of 5 additional														
	personnel for night shift														
	Training	30	hr	5	212	30.00					$6,350				$6,350
	Training based on HlthPhys Sheet														
	OMTA Operations (including shutdown)				9,369						$250,750			$314,678	$565,428
	8 Removal of Impacted portion														
	of OSDF Haul Rd (2 DAYS X 7)					Rate + 20%									
	CAT 330 excavator	20	hr	1						99.74				$1,990	$1,990
	CAT D8 dozer	20	hr	1						116.98				$2,340	$2,340
	Haul Truck	20	hr	2						73.62				$1,470	$1,470
mD	Operator	20	hr	2	56	29.48					$1,660				$1,660
mD	Teamster	20	hr	2	56	24.94					$1,410				$1,410
mD	Laborer	20	hr	1	28	24.71					$700				$700
	TOTAL FOR 1				141						$3,770			$5,800	$9,570

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PROJECT: OSDF PLACEMENT FY08
ESTIMATE NO.: C2-2001-05-006 38
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Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: FERNALD
TASK NO.: CCPL3

PPE Level	OSDF PLACEMENT FY08	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	9 Placement of 12" Impacted protection cover (10days)					Rate + 20%									
	CAT 563	85	hr							40.98				$3,480	$3,480
	CAT D6 LGP dozer	85	hr							73.26				$6,230	$6,230
mD	Foreman	100	hr	0.5	71	25.91					$1,830				$1,830
mD	Laborer	100	hr	2.5	353	24.71					$8,710				$8,710
mD	Operator	100	hr	2.0	282	29.48					$8,310				$8,310
	{11,000 ICY}														
	Total for 1 of 4Liners				705						$18,850			$9,710	$28,560
	10 Placement of 24" Select Impacted (20days)					Rate + 20%									
	CAT 563	170	hr							40.98				$6,970	$6,970
	CAT D6 LGP dozer	170	hr							73.26				$12,450	$12,450
mD	Laborer	200	hr	2.5	705	24.71					$17,420				$17,420
mD	Operator	200	hr	2.0	564	29.48					$16,630				$16,630
	CAT 563 compactor 4days	34	hr	1.0						40.98				$1,390	$1,390
mD	Operator 4days	40	hr	1.0	56	29.48					$1,660				$1,660
	{22,000 ICY}														
	Total for 1 of 4Liners				1,325						$35,710			$13,840	$49,550
	11 Placement of 36" Select					Rate + 20%									
	CAT 563	238	hr							40.98				$9,750	$9,750
	CAT D6 LGP dozer	238	hr							73.26				$17,440	$17,440
	CAT 563 compactor (14day)	119	hr							40.98				$4,880	$4,880
mD	Operator (28day)	280	hr	2.5	987	29.48					$29,100				$29,100
mD	Laborer (28day)	280	hr	2.5	987	24.71					$24,390				$24,390
mD	Operator (14day)	140	hr	1.0	197	29.48					$5,820				$5,820
mD	Silt Fence	1,600	lf						0.30				$480		$480
mD	Laborer (5day)	50	hr	2.0	141	24.71					$3,480				$3,480
	Trencher	42.5	hr							20.48				$870	$870
	{33,000 ICY}														
	TOTAL FOR 1				2,312						$62,790		$480	$32,940	$96,210

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PROJECT: OSDF PLACEMENT FY08
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Fluor Fernald, Inc.

DATE: 17-May-01
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LOCATION: FERNALD
TASK NO.: CCPL3

PPE Level	OSDF PLACEMENT FY08	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	12														
	CAT #1														
	Placement of Impacted Mat'l														
	2,222 cy/day avg. 10hrs					Rate + 20%									
	CAT D8 dozer	10	hr							116.98				$1,170	$1,170
	CAT 563 Compactor	11	hr							40.98				$450	$450
mD	Foreman	10	hr	0.5	7	25.91					$180				$180
mD	Laborer	10	hr	2.0	28	24.71					$700				$700
mD	Operator	10	hr	2.2	31	29.48					$910				$910
	CAT 330 Trac hoe	3	hr							25.17				$80	$80
mD	Operator	10	hr	2.3	32	29.48					$960				$960
mD	Foreman	10	hr	0.5	7	25.91					$180				$180
mD	Laborer	10	hr	2.5	35	24.71					$870				$870
	ICY = $2.48														
	Subtotal for 1unit				141						$3,800			$1,700	$5,500
	Unit rates				0.0635						$1.71017			$0.76508	$2.47525
	Double shift 5.5mo in FY06 & FY07														
	Portable light plants					Rate + 20%									
	10 Lights x 5.5m	5.5	mo	10						1,275				$70,100	$70,100
	Survey Crew	378	hr					90.00				$34,036			$34,036
	Supervisor	378	hr	1.0	533	37.85					$20,180				$20,180
	Safety	378	hr	1.0	533	30.34					$16,180				$16,180
	QA	378	hr	0.5	267	28.05					$7,480				$7,480
	Foreman	378	hr	1.0	533	25.91					$13,820				$13,820
	Operator	378	hr	3.0	1,600	29.48					$47,170				$47,170
	Laborer	378	hr	3.0	1,600	24.71					$39,530				$39,530
	Double shift Total FY06 & FY07				-										
	1Q 40,500 cy				2570						$69,262			$30,986	$100,248
	3&4Q 109,800 cy				6968						$187,776.78			$84,005.40	$271,782.18

DETAIL ESTIMATE WORKSHEETS

Fluor Fernald, Inc.

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ESTIMATE NO.: C2-2001-05-006 38
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TASK NO.: CCPL3

PPE Level	OSDF PLACEMENT FY08	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	13														
	CAT #2 & #4 ABOVE GRADE														
	Cell Placement 741 lcy					Rate + 20%									
	CAT 826	7	hr							165.35				$1,160	$1,160
	CAT D8	3	hr							116.98				$350	$350
	CAT 563 compactor	4	hr							40.98				$160	$160
mD	Laborer	10	hr	2.0	28	24.71					$700				$700
	CAT 330 Track hoe	3	hr							99.74				$300	$300
mD	Operator	10	hr	1.7	24	24.71					$590				$590
mD	Foreman	11	hr	0.25	4	25.91					$100				$100
mD	Laborer	10	hr	2.5	35	24.71					$870				$870
	ICY = $5.71														
	Subtotal for 1unit				91						$2,260			$1,970	$4,230
	Total x's 521 units				47,566						$1,177,460			$1,026,370	$2,203,830
	unit costs				0.1232						$3.049933			$2.658570	$5.708502
	1Q 600 cy				74						$1,830			$1,595	
	3&4Q 158,000 cy				19,467						$481,889			$420,054	$901,943

DETAIL ESTIMATE WORKSHEETS

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PPE Level	OSDF PLACEMENT FY08	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	14														
	CAT #3														
	Palletized Transite Placement					Rate + 20%									
	Place pallets (10hr day) 144lcy														
mD	Operator	10	hr	1.0	14	29.484					$420				$420
mD	Laborer	10	hr	1.0	14	24.71					$350				$350
	Place Fill around & over pallets & grid														
	1708 cy (1.5day)														
	CAT D6 dozer	15	hr							63.28				$950	$950
	CAT 563 compactor	15	hr							40.98				$610	$610
mD	Laborer	15	hr	1.00	21	24.71					$520				$520
mD	Operator	15	hr	1.50	32	29.48					$940				$940
mD	Foreman	15	hr	0.25	5	25.91					$140				$140
	ICY = $27.29														
	Subtotal = 1 grid				86						$2,370			$1,560	$3,930
	Total times 41 Grids				3,541						$97,170			$63,960	$161,130
	unit costs				1						$16.4583			$10.8333	$27.2917
	1Q - cy														
	3&4Q 15,600 cy				9,356						$256,750			$169,000	$425,750

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PPE Level	OSDF PLACEMENT FY08	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	15														
	CAT #5														
	Friable Asbestos 334cy					Rate + 20%									
	Excavate 10 trenches (2hr/trench)														
mD	Operator	20	hr	1.0	28	29.48					$830				$830
mD	Laborer	20	hr	1.0	28	24.71					$700				$700
	CAT 330 Trakhoe	20	hr							99.74				$1,990	$1,990
	ISO	20	hr	1.50	42					73.62				$1,470	$1,470
	Trencher	20	hr							20.48				$410	$410
	Foreman	20	hr	0.25	7	25.91					$180				$180
	Placement														
	Operator	8	hr	1	11	29.48					$330				$330
	Laborer	8	hr	2.00	23	24.71					$560				$560
	CAT 416 BkHoe	2	hr							25.17				$50	$50
	Foreman	8	hr	0.25	3	25.91					$70				$70
	Trench														
mD	Operator	8	hr	1.00	11	29.48					$330				$330
mD	Laborer	8	hr	1.00	11	24.71					$280				$280
	Foreman	8	hr	0.25	3	25.91					$70				$70
	Backfill														
	CAT 416 BkHoe	4	hr							25.17				$100	$100
mD	Laborer	4	hr	2.00	11	24.71					$280				$280
mD	Operator	4	hr	1.25	7	29.48					$210				$210
	CAT 563 compactor	4	hr							40.98				$160	$160
	Foreman	8	hr	0.25	2	25.91					$50				$50
	ICY = $24.16														
	Subtotal for 1 grid				188						$3,890			$4,180	$8,070
	Total times 57 grids				10,723						$221,730			$238,260	$459,990
	unit costs				0.5632						$11.64671			$12.51497	$24.16168
	1Q cy														
	3&4Q - cy														

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	16														
	CAT #2 & #4 At & Below Grade														
	Placement					Rate + 20%									
	1 Grid / shift = 450cy														
	CAT D8	5	hr	1.0						116.98				$580	$580
	CAT 563 compactor	5	hr	0.50						40.98				$200	$200
mD	Foreman	5	hr	0.25	1.8	25.91					$50				$50
mD	Laborer	5	hr	2	14.1	24.71					$350				$350
mD	Operator	5	hr	2	14.1	29.48					$420				$420
	ICY = $3.56														
	Subtotal for 1 grid				30.0						$820			$780	$1,600
	Total times 829 grid				24839						$679,780			$646,620	$1,326,400
	unit costs				0.0666						$1.8222			$1.7333	$3.5556
	1Q 29,500 cy				**1,964**						**$53,756**			**$51,133**	**$104,889**
	3&4Q 67,000 cy				**4,461**						**$122,089**			**$116,133**	**$238,222**

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	17														
	CAT #5					Rate + 20%									
	Thorium / Thorium Soil Debris														
	625 cy / grid														
	Trench method														
	Excavation 125 cy = 5 hr														
mD	Operator	5	hr	1.0	7	29.48					$210				$210
mD	Laborer	5	hr	1.0	7	24.71					$170				$170
mD	Foreman	5	hr	0.25	2	25.91					$50				$50
	CAT 330 Trakhoe	5	hr							99.74				$500	$500
	Total for 5 trenches				79						$2,150			$2,500	$4,650
	Place Thorium Debris/Soil 1.5' deep														
	CAT 330 Trakhoe	3	hr	1.0						99.74				$300	$300
mD	Foreman	3	hr	0.25	1	25.91					$30				$30
mD	Laborer	3	hr	2.0	8	24.71					$210				$210
	Total for 5 trenches				48						$1,200			$1,500	$2,700
	Backfill														
	CAT 330	4	hr							99.74				$400	$400
	CAT 563	4	hr							40.98				$160	$160
mD	Foreman	4	hr	0.25	1	25.91					$40				$40
mD	Laborer	4	hr	1.00	6	24.71					$140				$140
mD	Operator	4	hr	1.50	8	29.48					$250				$250
	Total for 5 trenches				78						$2,150			$2,800	$4,950
	ICY = $19.68														
	Subtotal for 1 grid				204.5						$5,500			$6,800	$12,300
	Total times 20 grids				4,089						$110,000			$136,000	$246,000
	unit costs				0.327120						$8.8000			$10.8800	$19.6800
	1Q - cy														
	3&4Q - cy														

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF PLACEMENT FY08
ESTIMATE NO.: C2-2001-05-006 38
CLIENT: DOE
WBS NO.: 1.1.C.D

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: FERNALD
TASK NO.: CCPL3

ITEM NO.	OSDF PLACEMENT FY08	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Project Staffing	Shared percent													
D	Project Manager	30.0%	hr	1	396	54.42					$21,540				$21,540
D	General Superintendent	30.0%	hr	1	396	37.85					$14,980				$14,980
D	Superintendent	37.5%	hr	2	990	32.99					$32,650				$32,650
D	Project Engineer	40.0%	hr	1	528	33.19					$17,520				$17,520
D	Quality Engineer	37.5%	hr	2	990	28.05					$27,760				$27,760
D	Safety Engineer	37.5%	hr	2	990	30.34					$30,030				$30,030
D	Office Administration	in overhead				19.31									
D	Contract Administration/ Schedule	in overhead				25.58									
D	Clerical	in overhead				14.58									
	TOTAL				4,288	33.69					$144,480				$144,480

APPENDIX "A"

PROJECT: OSDF PLACEMENT FY08
ESTIMATE NOC2-2001-05-006 38
CLIENT: DOE
WBS NO.: 1.1.C.D

SITE SPECIFIC

EFFICIENCY / MULTIPLIER ANALYSIS

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: FERNALD
TASK NO.: CCPL3

PERCENT OF INFLUENCE ON CHART MANHOURS	40%	50%	60%	70%	80%	90%	100%	105%	110%	% OF INFLUENCE	WT'D VALUE	PROD. RESULT
CRAFT SKILL (NOTE 1)	POOR			FAIR			STD	V.GOOD	XCELLENT	100.0%	12.0%	0.12
CRAFT AVAIL.(NOTE 1)		POOR		FAIR			STD			100.0%	8.0%	0.08
CLIMATE (NOTE 2)	SEVERE	ICE/SNOW			RAIN		+40 TO +85			90.0%	20.0%	0.18
PLANT ELEVATION		OVER 10,000FT			5,000' TO 10,000 FT		UNDER 5,000 FT			100.0%	5.0%	0.05
WORK SPACE				200 SF	250 SF	300 SF	350 SF			100.0%	10.0%	0.1
	<--- MULTIPLE SHIFTS-											
WORK WEEK							4-10s / 5-8s			100.0%	15.0%	0.15
50 HOUR WORK WEEK	//////////	//////////	//////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS				0.0%	0.0%	0
	//// MULTIPLE-SHIFT ////////											
60 HOUR WORK WEEK	//////////	//////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS					0.0%	0.0%	0
	//////////	//////////										
SHIFTWORK							OR					
2ND SHIFT					2ND SHIFT		ONE SHIFT			100.0%	3.0%	0.03
3RD SHIFT			3RD SHIFT				ONLY			100.0%	5.0%	0.05
PROJECT SIZE					400M MH AND UP	300M TO 400M MH	200M TO 300M MH	200M MH OR LESS		100.0%	4.0%	0.04
PLANT TYPE				REVAMP ONLY	REVAMP & NEW	NEW IN EXIST PLT	GRASS ROOTS			90.0%	8.0%	0.072
AREA/UNION INFLUENCE	STRONG		MILD		SOME		NONE			40.0%	10.0%	0.04
											100.0%	91.2%

NOTES.....
1. TURNOVER HAS BEEN CONSIDERED
2. FOR EXTERIOR WORK ONLY

EFFICIENCY (AS A % OFF CHART MANHOURS) 91.2%

MULTIPLIER - (TO BE APPLIED TO CHART M.H.'S TO OBTAIN SITE M.H.'S) 1.10

EFFICIENCY FACTORS

PROJECT: OSDF PLACEMENT FY08
ESTIMATE NO. C2-2001-05-006 38
CLIENT: DOE
WBS NO.: 1.1.C.D

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: FERNALD
TASK NO.: CCPL3

EXAMPLE:

STANDARD CHART MANHOURS =	NET	100
EFFICIENCY FACTORS:		
* SITE SPECIFIC (SEE APPENDIX A)	[redacted]	10.0
S/T = BASE UNIT MANHOURS		110
OVERTIME PRODUCTIVITY FACTOR (SEE DETAIL WORKSHEET BACK-UP)	0.00%	0
		110
* TASK SPECIFIC (confined space, high elevation, congestion, etc.)	0.0%	0
		110
* PPE SPECIFIC (Based on current data and estimating knowledge)		

	PPE LEVEL									
	D		Mod.'D'		Mod. "C"		C		C+	
PRODUCTIVITY HOURS		MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's
(AS A %) / ADD MH's	4.00%	4	28.00%	31	66.00%	73	74.00%	81	96.00%	106
(AS A MULTIPLIER)/TOTAL HRS	1.04	114.4	1.28	140.8	1.66	182.6	1.74	191.4	1.96	215.6
TOTAL MULTIPLIER w/SITE PROD.	1.144		1.408		1.826		1.914		2.156	
	11.0	Man Days	14.0	Man Days	18.0	Man Days	19.0	Man Days	22.0	Man Days

NOTE : Use the Default Productivity Factor of 'mC' for working in a contaminated area if the Safety Level cannot be determined.

(SEE FD FERNALD ESTIMATING SERVICES REFERENCE MANUAL IM-6006 8.10)

Total hours worked in a specific PPE level divided by 10 hour working days = (PPE) ManDays to determine material cost of PPE's.
(SEE APPENDIX C - HEALTH PHYSICS)

THESE EFFICIENCY FACTORS WERE APPLIED INDIVIDUALLY THROUGHOUT THE ESTIMATE AT A TASK SPECIFIC LEVEL, TO OBTAIN A MORE ACCURATE ACCOUNT OF OVERALL EFFICIENCY IMPACT DUE TO PPE REQUIREMENTS IN HANDLING CONTAMINATED AND HAZARDOUS WASTE.

EFFICIENCY FACTORS

PROJECT: OSDF PLACEMENT FY08
ESTIMATE NO. C2-2001-05-006 38
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: FERNALD
TASK NO.: CCPL3

PPE MULTIPLIER DEVELOPEMENT

		D	mD	mC	C	C+
CREW SIZE & MAKE-UP	STANDARD	7	7	7	7	7
	WORKER-BUDDY	0	0	0	0	0
	SUPPORT TEAM	0	0	0	0	0
	TOTAL CREW	7	7	7	7	7
CREW SIZE RATIO		1.00	1.00	1.00	1.00	1.00
AVAILABLE WORK TIME FACTOR		0.96	0.78	0.7	0.7	0.68
PPE LABOR PRODUCTIVITY FACTOR		1	1	0.86	0.82	0.75
NET PRODUCTIVITY RATIO		0.96	0.78	0.602	0.574	0.51
NET PRODUCTIVITY MULTIPLIER		**1.04**	**1.28**	**1.66**	**1.74**	**1.96**

These factors were based on Tables 6.1 and 6.2, Moderate Work Efforts, 66F to 85F temperature of 'Hazardous Waste Cost Control' by R.A.Selg. Modifications were made to reflect a 10 hour work day and no buddy system or support team for levels D, mC and C. The worker-buddy and support team members, if required, may be covered under Construction Mgmt. (Rad Techs).

AVAILABLE WORK TIME FACTOR		D	mD	mC	C	C+
TOTAL WORK MINUTES per D 4 - 10's		600	600	600	600	600
ADDITN'L SITE SAFETY MEETINGS NOT INCLD. IN BA	QUANTITY	1	1	1	1	1
	MINUTES	25	25	25	25	25
TOTAL		25	25	25	25	25
PPE DON & DOFFING	QUANTITY	0	0	3	3	3
(ADJUST LEVEL D per WORK PLAN)	MINUTES	0	0	15	15	20
TOTAL			0	45	45	60
WORK BREAKS	QUANTITY	N/A	2	2	2	2
(ADJUST LEVEL D per WORK PLAN)	MINUTES	N/A	15	15	15	15
TOTAL			30	30	30	30
MOBILIZATION - ROUND TRIPS	QUANTITY	N/A	4	4	4	4
(ADJUST LEVEL D per WORK PLAN)	MINUTES	N/A	15	15	15	15
TOTAL			60	60	60	60
COOLDOWNS PER DAY	QUANTITY	N/A	4	4	4	4
** (4 OUT OF 12 MONTHS) 33.33%	MINUTES	N/A	15	15	15	15
TOTAL			20	20	20	20
AIR TANK REPLACEMENT	QUANTITY	N/A	N/A	N/A	N/A	N/A
	MINUTES	N/A	N/A	N/A	N/A	N/A
TOTAL						
AVAILABLE WORK TIME		575	465	420	420	405
AVAILABLE WORK TIME FACTOR		**0.96**	**0.78**	**0.7**	**0.7**	**0.68**

NOTE: Adjust 'Work Minutes per Day' basis to: 5 - 8's, or leave as 4 - 10's . Any other circumstances, over-ride the minutes per day.

** Assumption based on work performed in May, June, July & August, pro-rating cost over one year. Adjust % to individual circumstances.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: OSDF PLACEMENT FY08
ESTIMATE NO. C2-2001-05-006 38
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: FERNALD
TASK NO.: CCPL3

Fluor Fernald, Inc.

PPE"s - PERSONAL PROTECTIVE EQUIPMENT

DESCRIPTION	UNIT	UNIT COST	* NO. OF CHANGE OUTS PER WORKER PER DAY				
			Man Days (TOTAL HOURS worked in PPE's Div. by WORK HOURS / DAY)				
PPE LEVEL C / C+ / B : F/HF MASK w/RESP.&CART.			*	MAN DAYS	MAT'L.$'s	PPE LEVEL	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	(DOUBLE PPE)
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	C / C+	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	C / C+	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	C / C+	
APR CARTRIDGES - DISPOSABLE	PR	$6.98	3	0	$0	C / C+	
SUB-TOTAL		$17.42	3		$0		
				$/MD =	$0.00		
PPE LEVEL mD : FULL DRESS				MAN DAYS	MAT'L.$'s	PPE LEVEL	
LT.WT. DISPOSABLE COVERALLS W/HOOD & BOOTIES	PR	$4.46	3	1421	$19,008	mC	
GLOVE LINER - DISPOSABLE	PR	$0.24	3	1421	$1,023	mC	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	1421	$1,108	mC	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	1421	$4,347	mC	
SUB-TOTAL		$5.98	3		$25,486		
				$/MD =	$17.94		
SUBCONTRACTOR REQUIRED PURCHASES			QTY. PER WKR.	NO. OF WORKERS	MAT'L.$'s	PPE LEVEL	
RUBBER BOOT COVERS-(1)PR.PER WORKER	PR	$12.70	6	8	$610	D/C/B	
APR w/HALF FACE MASK - (1) PER WORKER	EA	$22.30	6	0	$0	C	
APR w/FULL FACE MASK - (1) PER WORKER	EA	$174.00	6	0	$0	C	
SCBA	EA	$1,894.00	2	0	$0	B	
COOL VESTS	EA	$137.50	6	0	$0	C/B	
THERMO STRIPS	EA	$50.00	6	0	$0	C/B	
SUB-TOTAL					$610		

	MAT'L.$'s
TOTAL PPE's =	$26,100

(FORWARD TO PAGE 2 OF 2)

OTHER PPE's SUCH AS HARD HAT, SAFETY GLASSES/GOGGLES, STEEL TOED SAFETY SHOES, HEARING PROTECTION, ARE CONSIDERED THE SUBCONTRACTORS RESPONSIBILITY AND ARE COVERED IN HIS OVERHEAD EXPENSE.
COSTS OF FD FERNALD SUPPLIED PPE's, SUCH AS COTTON COVERALLS, EXCHANGE OF RUBBER BOOT COVERS AND RESPIRATORS FOR CHANGEOUTS AND CLEANING OF SAME IS INCURRED BY FD FERNALD AND COSTS ARE NOT INCLUDED AS PART OF PROJECT COSTS AT THIS TIME.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: OSDF PLACEMENT FY08
ESTIMATE NO. C2-2001-05-006 38
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: FERNALD
TASK NO.: CCPL3

--MEDICAL MONITORING --

MEDICAL - PHYSICAL and IN-VIVO MONITORING - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION PHYSICAL (3hrs), IN-VIVO (1hr)	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $
BASELINE PHYSICALS	1	4	9	36	$27.14	$980
ANNUAL PHYSICALS	1	4	9	36	$27.14	$980
EXIT (TERMINATION) PHYSICALS (IN-VIVO)	1	1	9	9	$27.14	$240
SUB-TOTAL						$2,200

RADIATION IN-VITRO SURVEILLANCE - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $
BI-MONTHLY BIOASSAY	6	1	9	54	$27.14	$1,470
SUB-TOTAL						$1,470

RANDOM DRUG TESTING

	TESTS	HRS	TOTAL HOURS	AVG. RATE	LABOR $'s	
	16	2	32	$27.14	$900	
NO. OF WKRS. TESTED	TESTING DAYS PER YR.	AVG. NO. OF TESTS PER DAY	CHANCE/ DAY FOR TEST	NO. OF WKRS. FOR THIS ESTIMATE	CHANCES /DAY FOR TEST FOR PROJECT	CONSTR WORKING DAYS
2340	226	10	0.0042735	16	0.0684	227

		LABOR $'S THRU SAFETY	LABOR $'s
WORK DELAYS CAUSED BY MONITORING	0.0%	$1,787,012	$0
			LABOR $'s
WORK DELAYS CAUSED BY RAD CHECKING	0.0%	$1,787,012	$0

	TOTAL LABOR	TOTAL MAT'L.	GRAND TOTAL
TOTAL HEALTH PHYSICS	$4,600	$26,100	$30,700

(FORWARD TO ESTIMATE SUMMARY SHEET)

ACTIVITY DURATIONS

Fluor Fernald, Inc.

PROJECT: OSDF PLACEMENT FY08
ESTIMATE NO. C2-2001-05-006 38
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: FERNALD
TASK NO.: CCPL3

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION
CONSTRUCTION:	01-May-01	01-Oct-07	31-Mar-08	30-Sep-08	12.0	MONTHS
					0	MONTHS
TOTAL					12.0	MONTHS

	DATE of EST. to MID-POINT CTIVITY DURATION	
a.	83.1	MONTHS
b.	0	MONTHS

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION
OPERATIONS					0	MONTHS

DATE of EST. to MID-POINT CTIVITY DURATION	
0	MONTHS

ACTIVITY DURATION IS USED IN DETERMINING NUMBER of WORKERS for CERCLA/SAT TRAINING HOURS and HEALTH PHYSICS COSTS.

ESTIMATE SUMMARY SHEET

Fluor Fernald, Inc.

PROJECT:	OSDF PLACEMENT FY09	DATE:	17-May-01
ESTIMATE #:	C2-2001-05-06 39	ESTIMATOR:	T.WAGNER
CLIENT:	DOE	LOCATION:	FERNALD
WBS #:	1.1.C.D	TASK NO.:	CCPL3

ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	EQUIP. $	TOTAL $
Post Award Document (Bonds & Insurance)				$27,100			$27,100
Submittals	480		$24,060				$24,060
Overhead & Profit				$347,613			$347,613
Off Hour Dust Control				$20,000			$20,000
Control & Management (separate estimate)							
Site Prep	2,489		$72,200	$51,000	$6,230	$30,104	$159,534
OMTA Operations (including shutdown)	9,158		$244,400			$314,678	$559,078
Removal of Impacted portion Haul Rd							
Placement of 12" Protective Layer							
Placement of 24" Select Layer							
Placement of 36" Select Layer	2,312		$62,790		$480	$32,940	$96,210
Placement of CAT #1 1Q	2,716		$73,195			$32,745	$105,941
Placement of CAT #1 3&4Q	5,495		$148,101			$66,256	$214,356
Placement of CAT #2 & #4 Above Grade 1Q	74		$1,830			$1,595	$3,425
Placement of CAT #2 & #4 Above Grade 3&4Q							
Placement of CAT #3 Palletized Transits 1Q							
Placement of CAT #3 Palletized Transits 3&4Q							
Placement of CAT #5 Friable Asbestos 1Q							
Placement of CAT #5 Friable Asbestos 3&4Q							
Placement of CAT #2&#4 @ & Below Grade 1Q							
Placement of CAT #2&#4 @ & Below Grade 3&4Q							
Placement of CAT #5 Thorium/Soil Debris 1Q							
Placement of CAT #5 Thorium/Soil Debris 3&4Q							
DIRECT FIELD COSTS TOTAL	22,724	$27.57	$626,576	$445,713	$6,710	$478,318	$1,557,317
PM & GEN SUPER, SUP. ENG, QA, & SAFETY	3,158	$33.61	$106,160				$106,160
HEALTH PHYSICS	127		$3,500		$26,100		$29,600
PAYROLL BURDENS & BENEFITS			$419,700				$419,700
SALES TAX					$2,000	$28,700	$30,700
INDIRECT FIELD COSTS TOTAL	3,285		$529,360		$28,100	$28,700	$586,160
DIRECT & INDIRECT FIELD COSTS TOTAL	26,009	$44.44	$1,155,936	$445,713	$34,810	$507,018	$2,143,477
TARGET ESTIMATE				(FY 01 DOLLARS)			$2,143,477

ESTIMATE PERFORMED BY ESTIMATING SERVICES

ESTIMATE SUMMARY SHEET

FACTORS

PROJECT:	OSDF PLACEMENT FY09	DATE:	17-May-01
ESTIMATE NO.:	C2-2001-05-06 39	ESTIMATOR:	T.WAGNER
CLIENT:	DOE	LOCATION:	FERNALD
WBS NO.:	1.1.C.D	TASK NO.:	CCPL3

FIXED PRICE S	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
DFC DOLLARS	$626,576	$445,713	$6,710	$478,318	$26,100	$1,583,417
IFC COST FACTOR	1.8448	--	1.0000	1.0000	--	
	1.0000	1.0000	1.0000	1.0000	1.0000	
SALES TAX	-	-	1.0600	1.0600	1.0600	
DIRECT FIELD COST FACTOR =	1.8448	1.0000	1.0600	1.0600	1.0600	
BASE ESTIMATE $'S	$1,155,936	$445,713	$7,113	$507,017	$27,666	$2,143,444
BASE FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	
TARGET ESTIMATE FACTOR	1.8448	1.0000	1.0600	1.0600	1.0600	
FPS TARGET ESTIMATE (FY01 $)	$1,155,936	$445,713	$7,113	$507,017	$27,666	$2,143,444

NOTE:

F THERE ARE NO DFC EQUIP. $, ENTER THE IFC EQUIP. $'S INTO THE DIRECT FIELD COST TOTAL AND DELETE IFC FACTOR IN G65.

ESTIMATE SUMMARY SHEET

PROJECT: OSDF PLACEMENT FY09 | **DATE:** 17-May-01

ESTIMATE NO.: C2-2001-05-06 39 | **ESTIMATOR:** T.WAGNER

CLIENT: DOE | **LOCATION:** FERNALD

WBS NO.: 1.1.C.D | **TASK NO.:** CCPL3

DIRECT FIELD COST W/FACTORS

PAY ITEM NO.	DESCRIPTION	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
		(ASSIGN OR PRORATE PPE MAT'L.$'S)-->>				29600	
1	Post Award Document (Bonds & Insura		27100				
			$27,100				$27,100
2	Submittals	24060					
		$44,390					$44,390
3	Overhead & Profit		347613				
			$347,610				$347,610
4	Off Hour Dust Control		20000				
			$20,000				$20,000
6	Site Prep	72200	51000	6230	30104	3,546.99	
		$133,200	$51,000	$6,600	$31,910	$3,760	$226,470
7	OMTA Operations (including shutdown)	244400			314678	12,006.72	
		$450,880			$333,560	$12,730	$797,170
8	Removal of Impacted portion Haul Rd					-	
9	Placement of 12" Protective Layer					-	
10	Placement of 24" Select Layer					-	
11	Placement of 36" Select Layer	62790		480	32940	3,084.70	
		$115,840		$510	$34,920	$3,270	$154,540
12	Placement of CAT #1 1Q	73195			32745	3,595.89	
		$135,030			$34,710	$3,810	$173,550
12	Placement of CAT #1 3&4Q	148100.8101			66255.62556	7,275.80	
		$273,220			$70,230	$7,710	$351,160
13	Placement of CAT #2 & #4 Above Grad	1830			1595	89.90	
		$3,380			$1,690	$100	$5,170
13	Placement of CAT #2 & #4 Above Grad					-	
14	Placement of CAT #3 Palletized Transi					-	
14	Placement of CAT #3 Palletized Transi					-	
15	Placement of CAT #5 Friable Asbestos					-	
15	Placement of CAT #5 Friable Asbestos					-	
16	Placement of CAT #2&#4 @ & Below G					-	
16	Placement of CAT #2&#4 @ & Below G					-	
17	Placement of CAT #5 Thorium/Soil Deb					-	
17	Placement of CAT #5 Thorium/Soil Deb					-	
TOTAL DIRECT FIELD COSTS W/FACTORS		(FY01 DOLLARS)					$2,147,160

Cost Allocation for Baseline Entry

1	Post Award	$27,100
2	Submittal	$44,390
	Subtotal	$71,490
3	Overhead & Profit	$347,610
4	Off Hour Dust Control	$20,000
6	Site Prep	$226,470
	Subtotal	$246,470
7	OMTA Operations (including shutdown)	$797,170
8	Removal of Impacted portion Haul Rd	
	Subtotal	$797,170
9	Placement of 12" Protective Layer	
10	Placement of 24" Select Layer	
11	Placement of 36" Select Layer	$154,540
12 thru 17	Quarter 1	$178,720
12 thru 17	Quarter 3 & 4	$351,160
	Grand Total	$2,147,160
	Verify old total	$2,147,160
	Match %	100.00%

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF PLACEMENT FY09
ESTIMATE NO.: C2-2001-05-06 39
CLIENT: DOE
WBS NO.: 1.1.C.D

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: FERNALD
TASK NO.: CCPL3

ITEM NO.	SUMMARY	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST / UNIT Labor	COST / UNIT S/C	COST / UNIT Mat'l	COST / UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
1	Post Award Document (Bonds & Insurance)											$27,100			$27,100
2	Submittals				480						$24,060				$24,060
3	Overhead & Profit											$347,613			$347,613
4	Off Hour Dust Control											$20,000			$20,000
5	Control & Management (separate estimate)														
6	Site Prep				2,489						$72,200	$51,000	$6,230	$30,104	$159,534
7	OMTA Operations (including shutdown)				9,158						$244,400			$314,678	$559,078
8	Removal of Impacted portion Haul Rd														
9	Placement of 12" Protective Layer														
10	Placement of 24" Select Layer														
11	Placement of 36" Select Layer				2,312						$62,790		$480	$32,940	$96,210
12	Placement of CAT #1 1Q				2,716						$73,195			$32,745	$105,941
12	Placement of CAT #1 3&4Q				5,495						$148,101			$66,256	$214,356
13	Placement of CAT #2 & #4 Above Grade 1Q				74						$1,830			$1,595	
13	Placement of CAT #2 & #4 Above Grade 3&4Q														
14	Placement of CAT #3 Palletized Transits 1Q														
14	Placement of CAT #3 Palletized Transits 3&4Q														
15	Placement of CAT #5 Friable Asbestos 1Q														
15	Placement of CAT #5 Friable Asbestos 3&4Q														
16	Placement of CAT #2&#4 @ & Below Grade 1Q														
16	Placement of CAT #2&#4 @ & Below Grade 3&4Q														
17	Placement of CAT #5 Thorium/Soil Debris 1Q														
17	Placement of CAT #5 Thorium/Soil Debris 3&4Q														
	SUBTOTAL OSDF Placement		KOT		22,724	32.67					$626,576	$445,713	$67,710	$478,318	$1,557,317

DETAIL ESTIMATE WORKSHEETS

Fluor Fernald, Inc.

PROJECT: OSDF PLACEMENT FY09
ESTIMATE NO.: C2-2001-05-06 39
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: FERNALD
TASK NO.: CCPL3

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
1	**Post Award Documents**														
	Bonds & Insurance (calculated on summary)	1	ls												
2	**Submittals** fy09 use 6ea 30 with 30 & 10 for tech														
	Plans allowance	6	ea	30.0	180	50.13					$9,020				$9,020
	Technical submittals allowance	30	ea	10.0	300	50.13					$15,040				$15,040
					480						$24,060				$24,060
4	**Off Hour Dust Control**														
	Off Hour Dust Control allowance	1	ls					20,000				$20,000			$20,000
5	Control & Management (separate estimate)														

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF PLACEMENT FY09
ESTIMATE NO.: C2-2001-05-06 39
CLIENT: DOE
WBS NO.: 1.1.C.D

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: FERNALD
TASK NO.: CCPL3

PPE Level	OSDF PLACEMENT FY09	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	6 SITE PREP														
	Dust Control					Rate + 20%									
	CAT 613 Water wagon (1ea)	4	mo	1						3,770				$15,080	$15,080
	CAT 613 Water wagon (1ea)	731	hr	1						12.55				$9,174	$9,174
mD	Operator (4 months)	860	hr	1	1213	29.48					$35,750				$35,750
						29.48									
	Site Prep														
	Mobilization of equipment	10	hr	6	85	29.48				100.00	$2,490			$1,000	$3,490
	Silt fence	2,000	lf						0.30				$600		$600
mD	Laborer	40	hr	1	56	24.71					$1,390				$1,390
mD	Operator	40	hr	1	56	29.48					$1,660				$1,660
	CAT 416 backhoe	40	hr	1						25.17				$1,010	$1,010
	Straw bales	312	ea						2.50				$780		$780
mD	Laborer	15	hr	2	42	24.71					$1,050				$1,050
mD	Operator	15	hr	1	21	29.48					$620				$620
	CAT 416 backhoe	15	hr	1						25.17				$380	$380
	Install check dams/SIDs														
mD	Laborer	20	hr	2	56	24.71					$1,390				$1,390
mD	Operator	20	hr	1	28	29.48					$830				$830
mD	Teamster	20	hr	1	28	24.94					$700				$700
	CAT 330 TracHoe	20	hr	1						99.74				$1,990	$1,990
	Type D Rip Rap	12	tn	1					15.50				$190		$190
	Haul Truck	20	hr	1						73.62				$1,470	$1,470
	Construction/RAD fencing 4' wire w/ p	1,200	lf						2.83				$3,400		$3,400
mD	Laborer	20	hr	2	56	24.71					$1,390				$1,390
	Install const/grid signage	36	ea						35.00				$1,260		$1,260
	Site prep														
mD	Laborer	30	hr	2	85	24.71					$2,090				$2,090
	Survey														
	Survey crew	1	ls					51,000				$51,000			$51,000
	Training	30	hr	18	761	30.00					$22,840				$22,840
	Training based on HlthPhys Sheet														
	SITE PREP				2,06	32.01					$72,200	$51,000	$6,230	$30,104	$159,534

DETAIL ESTIMATE WORKSHEETS

Fluor Fernald, Inc.

PROJECT: OSDF PLACEMENT FY09
ESTIMATE NO.: C2-2001-05-06 39
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: FERNALD
TASK NO.: CCPL3

PPE Level	OSDF PLACEMENT FY09	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	7 OMTA Operations (including Shutdown)														
	7 A apply to ea fiscal yr of FY04 - FY08														
	OMTA Operations thru shutdown period (approx. 3 mo)														
	CAT 973 Track Loader/4way bucket	552	hr	1						107.95				$59,600	$59,600
	CAT 330 Excavator/grappler	552	hr	1						99.74				$55,060	$55,060
	Tractor (farm)	552	hr							37.57				$20,740	$20,740
mD	Foreman (3 mo)	650	hr	1	916	21.59					$19,770				$19,770
mD	Laborer (3 mo)	650	hr	2	1,832	20.59					$37,710				$37,710
mD	Operator (3 mo)	650	hr	1	916	24.57					$22,500				$22,500
						Rate + 20%									
mD	Teamster (9 mo)	1,949	hr	2	5,495	29.92					$164,420				$164,420
	ROB Truck (Site Owns)	1,656	hr	1						73.62				$121,931	$121,931
	CAT TH83 (9 mo)	1,656	hr	1						34.62				$57,346	$57,346
	Purchase of office trailer (8x12) FY04		ls					5,075.00							
	7 B Special for Lighting FY06 & FY07														
	Lighting double shift														
	2x5.5mx4		mo							-					
	7 B Special for FY04 - FY08														
	Training & Hiring of 5 additional personnel for night shift														
	Training	30	hr	5		30.00									
	Training based on HlthPhys Sheet														
	OMTA Operations (including shutdown)				9,158						$244,400			$314,678	$559,078
	8 Removal of impacted portion of OSDF Haul Rd (2 DAYS X 7)					Rate + 20%									
	CAT 330 excavator	20	hr	1						99.74				$1,990	$1,990
	CAT D8 dozer	20	hr	1						116.98				$2,340	$2,340
	Haul Truck	20	hr	2						73.62				$1,470	$1,470
mD	Operator	20	hr	2	56	29.48					$1,660				$1,660
mD	Teamster	20	hr	2	56	24.94					$1,410				$1,410
mD	Laborer	20	hr	1	28	24.71					$700				$700
	TOTAL FOR 1														

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF PLACEMENT FY09
ESTIMATE NO.: C2-2001-05-06 39
CLIENT: DOE
WBS NO.: 1.1.C.D

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: FERNALD
TASK NO.: CCPL3

PPE Level	OSDF PLACEMENT FY09	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	9 Placement of 12" Impacted protection cover (10days)					Rate + 20%									
	CAT 563	85	hr							40.98				$3,480	$3,480
	CAT D6 LGP dozer	85	hr							73.26				$6,230	$6,230
mD	Foreman	100	hr	0.5	71	25.91					$1,830				$1,830
mD	Laborer	100	hr	2.5	353	24.71					$8,710				$8,710
mD	Operator	100	hr	2.0	282	29.48					$8,310				$8,310
	{11,000 ICY}														
	Total for 1 of 4Liners														
	10 Placement of 24" Select Impacted (20days)					Rate + 20%									
	CAT 563	170	hr							40.98				$6,970	$6,970
	CAT D6 LGP dozer	170	hr							73.26				$12,450	$12,450
mD	Laborer	200	hr	2.5	705	24.71					$17,420				$17,420
mD	Operator	200	hr	2.0	564	29.48					$16,630				$16,630
	CAT 563 compactor 4days	34	hr	1.0						40.98				$1,390	$1,390
mD	Operator 4days	40	hr	1.0	56	29.48					$1,660				$1,660
	{22,000 ICY}														
	Total for 1 of 4Liners														
	11 Placement of 36" Select														
	CAT 563	238	hr			Rate + 20%				40.98				$9,750	$9,750
	CAT D6 LGP dozer	238	hr							73.26				$17,440	$17,440
	CAT 563 compactor (14day)	119	hr							40.98				$4,880	$4,880
mD	Operator (28day)	280	hr	2.5	987	29.48					$29,100				$29,100
mD	Laborer (28day)	280	hr	2.5	987	24.71					$24,390				$24,390
mD	Operator (14day)	140	hr	1.0	197	29.48					$5,820				$5,820
mD	Silt Fence	1,600	lf						0.30				$480		$480
mD	Laborer (5day)	50	hr	2.0	141	24.71					$3,480				$3,480
	Trencher	42.5	hr							20.48				$870	$870
	{33,000 ICY}														
	TOTAL FOR 1				2,312						$62,790		$480	$32,940	$96,210

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF PLACEMENT FY09
ESTIMATE NO.: C2-2001-05-06 39
CLIENT: DOE
WBS NO.: 1.1.C.D

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: FERNALD
TASK NO.: CCPL3

PPE Level	OSDF PLACEMENT FY09	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	12														
	CAT #1														
	Placement of Impacted Mat'l														
	2,222 cy/day avg. 10hrs					Rate + 20%									
	CAT D8 dozer	10	hr							116.98				$1,170	$1,170
	CAT 563 Compactor	11	hr							40.98				$450	$450
mD	Foreman	10	hr	0.5	7	25.91					$180				$180
mD	Laborer	10	hr	2.0	28	24.71					$700				$700
mD	Operator	10	hr	2.2	31	29.48					$910				$910
	CAT 330 Trac hoe	3	hr							25.17				$80	$80
mD	Operator	10	hr	2.3	32	29.48					$960				$960
mD	Foreman	10	hr	0.5	7	25.91					$180				$180
mD	Laborer	10	hr	2.5	35	24.71					$870				$870
	ICY = $2.48														
	Subtotal for 1unit				141						$3,800			$1,700	$5,500
	Unit rates				0.0635						$1.71017			$0.76508	$2.47525
	Double shift 5.5mo in FY06 & FY07														
	Portable light plants					Rate + 20%									
	10 Lights x 5.5m	5.5	mo	10						1,275				$70,100	$70,100
	Survey Crew	378	hr					90.00				$34,036			$34,036
	Supervisor	378	hr	1.0	533	37.85					$20,180				$20,180
	Safety	378	hr	1.0	533	30.34					$16,180				$16,180
	QA	378	hr	0.5	267	28.05					$7,480				$7,480
	Foreman	378	hr	1.0	533	25.91					$13,820				$13,820
	Operator	378	hr	3.0	1,600	29.48					$47,170				$47,170
	Laborer	378	hr	3.0	1,600	24.71					$39,530				$39,530
	Double shift Total FY06 & FY07				-										
	1Q 42,800 cy				**2716**						**$73,195**			**$32,745**	**$105,941**
	3&4Q 86,600 cy				**5495**						**$148,100.81**			**$66,255.63**	**$214,356.44**

DETAIL ESTIMATE WORKSHEETS

Fluor Fernald, Inc.

PROJECT: OSDF PLACEMENT FY09
ESTIMATE NO.: C2-2001-05-06 39
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: FERNALD
TASK NO.: CCPL3

PPE Level	OSDF PLACEMENT FY09	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	13														
	CAT #2 & #4 ABOVE GRADE														
	Cell Placement 741 lcy					Rate + 20%									
	CAT 826	7	hr							165.35				$1,160	$1,160
	CAT D8	3	hr							116.98				$350	$350
	CAT 563 compactor	4	hr							40.98				$160	$160
mD	Laborer	10	hr	2.0	28	24.71					$700				$700
	CAT 330 Track hoe	3	hr							99.74				$300	$300
mD	Operator	10	hr	1.7	24	24.71					$590				$590
mD	Foreman	11	hr	0.25	4	25.91					$100				$100
mD	Laborer	10	hr	2.5	35	24.71					$870				$870
	ICY = $5.71														
	Subtotal for 1unit				91						$2,260			$1,970	$4,230
	Total x's 521 units				47,566						$1,177,460			$1,026,370	$2,203,830
	unit costs				0.1232						$3.049933			$2.658570	$5.708502
	1Q 600 cy				74						$1,830			$1,595	
	3&4Q - cy														

DETAIL ESTIMATE WORKSHEETS

Fluor Fernald, Inc.

PROJECT: OSDF PLACEMENT FY09
ESTIMATE NO.: C2-2001-05-06 39
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: FERNALD
TASK NO.: CCPL3

PPE Level	OSDF PLACEMENT FY09	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	14														
	CAT #3														
	Palletized Transite Placement					Rate + 20%									
	Place pallets (10hr day) 144lcy														
mD	Operator	10	hr	1.0	14	29.484					$420				$420
mD	Laborer	10	hr	1.0	14	24.71					$350				$350
	Place Fill around & over pallets & grid														
	1708 cy (1.5day)														
	CAT D6 dozer	15	hr							63.28				$950	$950
	CAT 563 compactor	15	hr							40.98				$610	$610
mD	Laborer	15	hr	1.00	21	24.71					$520				$520
mD	Operator	15	hr	1.50	32	29.48					$940				$940
mD	Foreman	15	hr	0.25	5	25.91					$140				$140
	ICY = $27.29														
	Subtotal = 1 grid				86						$2,370			$1,560	$3,930
	Total times 41 Grids				3,541						$97,170			$63,960	$161,130
	unit costs				1						$16.4583			$10.8333	$27.2917
	1Q - cy														
	3&4Q - cy														

DETAIL ESTIMATE WORKSHEETS

Fluor Fernald, Inc.

PROJECT: OSDF PLACEMENT FY09
ESTIMATE NO.: C2-2001-05-06 39
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: FERNALD
TASK NO.: CCPL3

PPE Level	OSDF PLACEMENT FY09	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	15														
	CAT #5														
	Friable Asbestos 334cy					Rate + 20%									
	Excavate 10 trenches (2hr/trench)														
mD	Operator	20	hr	1.0	28	29.48					$830				$830
mD	Laborer	20	hr	1.0	28	24.71					$700				$700
	CAT 330 Trakhoe	20	hr							99.74				$1,990	$1,990
	ISO	20	hr	1.50	42					73.62				$1,470	$1,470
	Trencher	20	hr							20.48				$410	$410
	Foreman	20	hr	0.25	7	25.91					$180				$180
	Placement														
	Operator	8	hr	1	11	29.48					$330				$330
	Laborer	8	hr	2.00	23	24.71					$560				$560
	CAT 416 BkHoe	2	hr							25.17				$50	$50
	Foreman	8	hr	0.25	3	25.91					$70				$70
	Trench														
mD	Operator	8	hr	1.00	11	29.48					$330				$330
mD	Laborer	8	hr	1.00	11	24.71					$280				$280
	Foreman	8	hr	0.25	3	25.91					$70				$70
	Backfill														
	CAT 416 BkHoe	4	hr							25.17				$100	$100
mD	Laborer	4	hr	2.00	11	24.71					$280				$280
mD	Operator	4	hr	1.25	7	29.48					$210				$210
	CAT 563 compactor	4	hr							40.98				$160	$160
	Foreman	8	hr	0.25	2	25.91					$50				$50
	ICY = $24.16														
	Subtotal for 1 grid				188						$3,890			$4,180	$8,070
	Total times 57 grids				10,723						$221,730			$238,260	$459,990
	unit costs				0.5632						$11.64671			$12.51497	$24.16168
	1Q cy														
	3&4Q - cy														

DETAIL ESTIMATE WORKSHEETS

Fluor Fernald, Inc.

PROJECT: OSDF PLACEMENT FY09
ESTIMATE NO.: C2-2001-05-06 39
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: FERNALD
TASK NO.: CCPL3

PPE Level	OSDF PLACEMENT FY09	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	16														
	CAT #2 & #4 At & Below Grade														
	Placement					Rate + 20%									
	1 Grid / shift = 450cy														
	CAT D8	5	hr	1.0						116.98				$580	$580
	CAT 563 compactor	5	hr	0.50						40.98				$200	$200
mD	Foreman	5	hr	0.25	1.8	25.91					$50				$50
mD	Laborer	5	hr	2	14.1	24.71					$350				$350
mD	Operator	5	hr	2	14.1	29.48					$420				$420
	ICY = $3.56														
	Subtotal for 1 grid				30.0						$820			$780	$1,600
	Total times 829 grid				24839						$679,780			$646,620	$1,326,400
	unit costs				0.0666						$1.8222			$1.7333	$3.5556
	1Q - cy														
	3&4Q - cy														

DETAIL ESTIMATE WORKSHEETS

Fluor Fernald, Inc.

PROJECT: OSDF PLACEMENT FY09
ESTIMATE NO.: C2-2001-05-06 39
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: FERNALD
TASK NO.: CCPL3

PPE Level	OSDF PLACEMENT FY09	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	17														
	CAT #5					Rate + 20%									
	Thorium / Thorium Soil Debris														
	625 cy / grid														
	Trench method														
	Excavation 125 cy = 5 hr														
mD	Operator	5	hr	1.0	7	29.48					$210				$210
mD	Laborer	5	hr	1.0	7	24.71					$170				$170
mD	Foreman	5	hr	0.25	2	25.91					$50				$50
	CAT 330 Trakhoe	5	hr							99.74				$500	$500
	Total for 5 trenches				79						$2,150			$2,500	$4,650
	Place Thorium Debris/Soil 1.5' deep														
	CAT 330 Trakhoe	3	hr	1.0						99.74				$300	$300
mD	Foreman	3	hr	0.25	1	25.91					$30				$30
mD	Laborer	3	hr	2.0	8	24.71					$210				$210
	Total for 5 trenches				48						$1,200			$1,500	$2,700
	Backfill														
	CAT 330	4	hr							99.74				$400	$400
	CAT 563	4	hr							40.98				$160	$160
mD	Foreman	4	hr	0.25	1	25.91					$40				$40
mD	Laborer	4	hr	1.00	6	24.71					$140				$140
mD	Operator	4	hr	1.50	8	29.48					$250				$250
	Total for 5 trenches				78						$2,150			$2,800	$4,950
	ICY = $19.68														
	Subtotal for 1 grid				204.5						$5,500			$6,800	$12,300
	Total times 20 grids				4,089						$110,000			$136,000	$246,000
	unit costs				0.327120						$8.8000			$10.8800	$19.6800
	1Q - cy														
	3&4Q - cy														

CONTRACTOR - Stated in FY01 DOLLARS

DETAIL ESTIMATE WORKSHEETS

Fluor Fernald, Inc.

PROJECT: OSDF PLACEMENT FY09
ESTIMATE NO.: C2-2001-05-06 39
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: FERNALD
TASK NO.: CCPL3

ITEM NO.	OSDF PLACEMENT FY09	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Project Staffing	Shared percent													
D	Project Manager	20.0%	hr	1	263	54.42					$14,320				$14,320
D	General Superintendent	20.0%	hr	1	263	37.85					$9,960				$9,960
D	Superintendent	40.0%	hr	2	1053	32.99					$34,730				$34,730
D	Project Engineer	20.0%	hr	1	263	33.19					$8,730				$8,730
D	Quality Engineer	25.0%	hr	2	658	28.05					$18,460				$18,460
D	Safety Engineer	25.0%	hr	2	658	30.34					$19,960				$19,960
D	Office Administration	in overhead				19.31									
D	Contract Administration/ Schedule	in overhead				25.58									
D	Clerical	in overhead				14.58									
	TOTAL				3,158	33.61					$106,160				$106,160

APPENDIX "A"

PROJECT: OSDF PLACEMENT FY09
ESTIMATE NOC2-2001-05-06 39
CLIENT: DOE
WBS NO.: 1.1.C.D

SITE SPECIFIC

EFFICIENCY / MULTIPLIER ANALYSIS

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: FERNALD
TASK NO.: CCPL3

PERCENT OF INFLUENCE ON CHART MANHOURS	40%	50%	60%	70%	80%	90%	100%	105%	110%	% OF INFLUENCE	WT'D VALUE	PROD. RESULT
CRAFT SKILL (NOTE 1)	POOR			FAIR			STD	V.GOOD	XCELLENT	100.0%	12.0%	0.12
CRAFT AVAIL.(NOTE 1)		POOR		FAIR			STD			100.0%	8.0%	0.08
CLIMATE (NOTE 2)	SEVERE	ICE/SNOW			RAIN		+40 TO +85			90.0%	20.0%	0.18
PLANT ELEVATION		OVER 10,000FT			5,000' TO 10,000 FT		UNDER 5,000 FT			100.0%	5.0%	0.05
WORK SPACE				200 SF	250 SF	300 SF	350 SF			100.0%	10.0%	0.1
WORK WEEK	<---- MULTIPLE SHIFTS-						4-10s / 5-8s			100.0%	15.0%	0.15
50 HOUR WORK WEEK	////////// ////// MULTIPLE-SHIFT //////////	//////////	//////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS				0.0%	0.0%	0
60 HOUR WORK WEEK	////////// //////////	////////// //////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS					0.0%	0.0%	0
SHIFTWORK 2ND SHIFT 3RD SHIFT			3RD SHIFT		2ND SHIFT		OR ONE SHIFT ONLY			 100.0% 100.0%	 3.0% 5.0%	 0.03 0.05
PROJECT SIZE					400M MH AND UP	300M TO 400M MH	200M TO 300M MH	200M MH OR LESS		100.0%	4.0%	0.04
PLANT TYPE				REVAMP ONLY	REVAMP & NEW	NEW IN EXIST PLT	GRASS ROOTS			90.0%	8.0%	0.072
AREA/UNION INFLUENCE	STRONG		MILD		SOME		NONE			40.0%	10.0%	0.04
											100.0%	91.2%

NOTES.....
1. TURNOVER HAS BEEN CONSIDERED
2. FOR EXTERIOR WORK ONLY

EFFICIENCY (AS A % OFF CHART MANHOURS) 91.2%

MULTIPLIER - (TO BE APPLIED TO CHART M.H.'S TO OBTAIN SITE M.H.'S) 1.10

CONTRACTOR - Stated in FY01 DOLLARS

EFFICIENCY FACTORS

PROJECT: OSDF PLACEMENT FY09
ESTIMATE NO. C2-2001-05-06 39
CLIENT: DOE
WBS NO.: 1.1.C.D

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: FERNALD
TASK NO.: CCPL3

EXAMPLE:

STANDARD CHART MANHOURS =	NET	100
EFFICIENCY FACTORS:		
* SITE SPECIFIC (SEE APPENDIX A)	[redacted]	10.0
S/T = BASE UNIT MANHOURS		110
OVERTIME PRODUCTIVITY FACTOR (SEE DETAIL WORKSHEET BACK-UP)	0.00%	0 / 110
* TASK SPECIFIC (confined space, high elevation, congestion, etc.)	0.0%	0 / 110

* PPE SPECIFIC (Based on current data and estimating knowledge)

	PPE LEVEL									
	D		Mod.'D'		Mod. "C"		C		C+	
PRODUCTIVITY HOURS		MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's
(AS A %) / ADD MH's	4.00%	4	28.00%	31	66.00%	73	74.00%	81	96.00%	106
(AS A MULTIPLIER)/TOTAL HRS	1.04	114.4	1.28	140.8	1.66	182.6	1.74	191.4	1.96	215.6
TOTAL MULTIPLIER w/SITE PROD.	1.144		1.408		1.826		1.914		2.156	

NOTE : Use the Default Productivity Factor of 'mC' for working in a contaminated area if the Safety Level cannot be determined.

(SEE FD FERNALD ESTIMATING SERVICES REFERENCE MANUAL IM-6006 8.10)

Total hours worked in a specific PPE level divided by 10 hour working days = (PPE) ManDays to determine material cost of PPE's.
(SEE APPENDIX C - HEALTH PHYSICS)

11.0	Man Days	14.0	Man Days	18.0	Man Days	19.0	Man Days	22.0	Man Days

THESE EFFICIENCY FACTORS WERE APPLIED INDIVIDUALLY THROUGHOUT THE ESTIMATE AT A TASK SPECIFIC LEVEL, TO OBTAIN A MORE ACCURATE ACCOUNT OF OVERALL EFFICIENCY IMPACT DUE TO PPE REQUIREMENTS IN HANDLING CONTAMINATED AND HAZARDOUS WASTE.

EFFICIENCY FACTORS

PROJECT: OSDF PLACEMENT FY09
ESTIMATE NO. C2-2001-05-06 39
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: FERNALD
TASK NO.: CCPL3

PPE MULTIPLIER DEVELOPEMENT

		D	mD	mC	C	C+
CREW SIZE & MAKE-UP	STANDARD	7	7	7	7	7
	WORKER-BUDDY	0	0	0	0	0
	SUPPORT TEAM	0	0	0	0	0
	TOTAL CREW	7	7	7	7	7
CREW SIZE RATIO		1.00	1.00	1.00	1.00	1.00
AVAILABLE WORK TIME FACTOR		0.96	0.78	0.7	0.7	0.68
PPE LABOR PRODUCTIVITY FACTOR		1	1	0.86	0.82	0.75
NET PRODUCTIVITY RATIO		0.96	0.78	0.602	0.574	0.51
NET PRODUCTIVITY MULTIPLIER		**1.04**	**1.28**	**1.66**	**1.74**	**1.96**

These factors were based on Tables 6.1 and 6.2, Moderate Work Efforts, 66F to 85F temperature of 'Hazardous Waste Cost Control' by R.A.Selg.
~~Modifications were made to reflect a 10 hour work day and no buddy system or support team for levels D, mC and C.~~
The worker-buddy and support team members, if required, may be covered under Construction Mgmt. (Rad Techs).

AVAILABLE WORK TIME FACTOR		D	mD	mC	C	C+
TOTAL WORK MINUTES per D		600	600	600	600	600
ADDITN'L.SITE SAFETY MEETINGS NOT INCLD. IN BA	QUANTITY	1	1	1	1	1
	MINUTES	25	25	25	25	25
TOTAL		25	25	25	25	25
PPE DON & DOFFING	QUANTITY	0	0	3	3	3
(ADJUST LEVEL D per WORK PLAN)	MINUTES	0	0	15	15	20
TOTAL			0	45	45	60
WORK BREAKS	QUANTITY	N/A	2	2	2	2
(ADJUST LEVEL D per WORK PLAN)	MINUTES	N/A	15	15	15	15
TOTAL			30	30	30	30
MOBILIZATION - ROUND TRIPS	QUANTITY	N/A	4	4	4	4
(ADJUST LEVEL D per WORK PLAN)	MINUTES	N/A	15	15	15	15
TOTAL			60	60	60	60
COOLDOWNS PER DAY	QUANTITY	N/A	4	4	4	4
** (4 OUT OF 12 MONTHS) 33.33%	MINUTES	N/A	15	15	15	15
TOTAL			20	20	20	20
AIR TANK REPLACEMENT	QUANTITY	N/A	N/A	N/A	N/A	N/A
	MINUTES	N/A	N/A	N/A	N/A	N/A
TOTAL						
AVAILABLE WORK TIME		575	465	420	420	405
AVAILABLE WORK TIME FACTOR		**0.96**	**0.78**	**0.7**	**0.7**	**0.68**

NOTE: Adjust 'Work Minutes per Day' basis to: 5 - 8's, or leave as 4 - 10's . Any other circumstances, over-ride the minutes per day.

** Assumption based on work performed in May, June, July & August, pro-rating cost over one year. Adjust % to individual circumstances.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: OSDF PLACEMENT FY09
ESTIMATE NO. C2-2001-05-06 39
CLIENT: DOE
WBS NO.: 1.1.C.D

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: FERNALD
TASK NO.: CCPL3

PPE"s - PERSONAL PROTECTIVE EQUIPMENT

DESCRIPTION	UNIT	UNIT COST	* NO. OF CHANGE OUTS PER WORKER PER DAY				
			Man Days (TOTAL HOURS worked in PPE's Div. by WORK HOURS / DAY)				
PPE LEVEL C / C+ / B : F/HF MASK w/RESP.&CART.			*	MAN DAYS	MAT'L.$'s	PPE LEVEL	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	(DOUBLE PPE)
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	C / C+	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	C / C+	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	C / C+	
APR CARTRIDGES - DISPOSABLE	PR	$6.98	3	0	$0	C / C+	
SUB-TOTAL		$17.42	3		$0		
				$/MD =	$0.00		

PPE LEVEL mD : FULL DRESS				MAN DAYS	MAT'L.$'s	PPE LEVEL
LT.WT. DISPOSABLE COVERALLS W/HOOD & BOOTIES	PR	$4.46	3	1421	$19,008	mC
GLOVE LINER - DISPOSABLE	PR	$0.24	3	1421	$1,023	mC
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	1421	$1,108	mC
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	1421	$4,347	mC
SUB-TOTAL		$5.98	3		$25,486	
				$/MD =	$17.94	

SUBCONTRACTOR REQUIRED PURCHASES			QTY. PER WKR.	NO. OF WORKERS	MAT'L.$'s	PPE LEVEL
RUBBER BOOT COVERS-(1)PR.PER WORKER	PR	$12.70	6	8	$610	D/C/B
APR w/HALF FACE MASK - (1) PER WORKER	EA	$22.30	6	0	$0	C
APR w/FULL FACE MASK - (1) PER WORKER	EA	$174.00	6	0	$0	C
SCBA	EA	$1,894.00	2	0	$0	B
COOL VESTS	EA	$137.50	6	0	$0	C/B
THERMO STRIPS	EA	$50.00	6	0	$0	C/B
SUB-TOTAL					$610	

	MAT'L.$'s
TOTAL PPE's =	$26,100

(FORWARD TO PAGE 2 OF 2)

OTHER PPE's SUCH AS HARD HAT, SAFETY GLASSES/GOGGLES, STEEL TOED SAFETY SHOES, HEARING PROTECTION, ARE CONSIDERED THE SUBCONTRACTORS RESPONSIBILITY AND ARE COVERED IN HIS OVERHEAD EXPENSE.
COSTS OF FD FERNALD SUPPLIED PPE's, SUCH AS COTTON COVERALLS, EXCHANGE OF RUBBER BOOT COVERS AND RESPIRATORS FOR CHANGEOUTS AND CLEANING OF SAME IS INCURRED BY FD FERNALD AND COSTS ARE NOT INCLUDED AS PART OF PROJECT COSTS AT THIS TIME.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: OSDF PLACEMENT FY09
ESTIMATE NO. C2-2001-05-06 39
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: FERNALD
TASK NO.: CCPL3

--MEDICAL MONITORING --

MEDICAL - PHYSICAL and IN-VIVO MONITORING - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION PHYSICAL (3hrs), IN-VIVO (1hr)	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $
BASELINE PHYSICALS	1	4	9	36	$27.57	$990
ANNUAL PHYSICALS	0	4	9	0	$27.57	$0
EXIT (TERMINATION) PHYSICALS (IN-VIVO)	1	1	9	9	$27.57	$250
SUB-TOTAL						$1,240

RADIATION IN-VITRO SURVEILLANCE - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $
BI-MONTHLY BIOASSAY	6	1	9	54	$27.57	$1,490
SUB-TOTAL						$1,490

RANDOM DRUG TESTING

	TESTS	HRS	TOTAL HOURS	AVG. RATE	LABOR $'s
	15	2	30	$27.57	$800

NO. OF WKRS. TESTED	TESTING DAYS PER YR.	AVG. NO. OF TESTS PER DAY	CHANCE/ DAY FOR TEST	NO. OF WKRS. FOR THIS ESTIMATE	CHANCES /DAY FOR TEST FOR PROJECT	CONSTR WORKING DAYS
2340	226	10	0.0042735	16	0.0684	226

		LABOR $'s THRU SAFETY	LABOR $'s
WORK DELAYS CAUSED BY MONITORING	0.0%	$626,576	$0
			LABOR $'s
WORK DELAYS CAUSED BY RAD CHECKING	0.0%	$626,576	$0

	TOTAL LABOR	TOTAL MAT'L.	GRAND TOTAL
TOTAL HEALTH PHYSICS	$3,500	$26,100	$29,600

(FORWARD TO ESTIMATE SUMMARY SHEET)

ACTIVITY DURATIONS

Fluor Fernald, Inc.

PROJECT: OSDF PLACEMENT FY09
ESTIMATE NO. C2-2001-05-06 39
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: FERNALD
TASK NO.: CCPL3

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION
CONSTRUCTION:	01-May-01	01-Oct-08	01-Apr-09	30-Sep-09	12.0	MONTHS
					0	MONTHS
TOTAL					12.0	MONTHS

	DATE of EST. to MID-POINT CTIVITY DURATION	
a.	95.1	MONTHS
b.	0	MONTHS

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION
OPERATIONS					0	MONTHS

DATE of EST. to MID-POINT CTIVITY DURATION	
0	MONTHS

ACTIVITY DURATION IS USED IN DETERMINING NUMBER of WORKERS for CERCLA/SAT TRAINING HOURS and HEALTH PHYSICS COSTS.

CCPL4

OSDF PHII CONSTRUCTION, MATERIALS, SERVICES

09/07/2001
11:16 AM

PBS: OHFN03
WBS: 1.1.C.D
CTRL ACCT: CCPL
CHARGE NO: CCPL4
COMMENT NO F03-031

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

DATE: 05-Sep-01
PROJECT MGR: JD Chiou
CAM: JD Chiou
PREPARED BY: W. F. Fick
FISCAL YEAR: 2001-2003

Resource: CLERKS **CLERKS** **EOC:** LABOR
Res Dept: 949 **Overtime:** FY01 **Class:** SAL

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Hours:	42.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0
Yr Total Cost:	1,003	0	0	0	0	0	0	0	0	0
Cum Total Cost:	1,003	1,003	1,003	1,003	1,003	1,003	1,003	1,003	1,003	1,003

Resource: CNSMGR **CONSTRUCTION MGR** **EOC:** LABOR
Res Dept: 949 **Overtime:** FY01 **Class:** SAL

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Hours:	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Yr Total Cost:	372	0	0	0	0	0	0	0	0	0
Cum Total Cost:	372	372	372	372	372	372	372	372	372	372

Resource: DRFCAD **DRAFTER/CAD OPERATOR** **EOC:** LABOR
Res Dept: 949 **Overtime:** FY01 **Class:** SAL

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Hours:	35.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0
Yr Total Cost:	1,092	0	0	0	0	0	0	0	0	0
Cum Total Cost:	1,092	1,092	1,092	1,092	1,092	1,092	1,092	1,092	1,092	1,092

Resource: ENGMGR **ENGINEERING MGR** **EOC:** LABOR
Res Dept: 949 **Overtime:** FY01 **Class:** SAL

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Hours:	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Yr Total Cost:	478	0	0	0	0	0	0	0	0	0
Cum Total Cost:	478	478	478	478	478	478	478	478	478	478

Resource: ENSMGR **ENVIR SCIENTIST MGR** **EOC:** LABOR
Res Dept: 949 **Overtime:** FY01 **Class:** SAL

INCLUDES ESCALATION COSTS

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Hours:	60.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
Yr Total Cost:	3,164	0	0	0	0	0	0	0	0	0
Cum Total Cost:	3,164	3,164	3,164	3,164	3,164	3,164	3,164	3,164	3,164	3,164

Resource: ENSREP **ENVIR SCIENCE REP** **EOC:** LABOR
Res Dept: 949 **Overtime:** FY01 **Class:** SAL

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Hours:	364.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	364.0	364.0	364.0	364.0	364.0	364.0	364.0	364.0	364.0	364.0
Yr Total Cost:	15,273	0	0	0	0	0	0	0	0	0
Cum Total Cost:	15,273	15,273	15,273	15,273	15,273	15,273	15,273	15,273	15,273	15,273

Resource: ENSTEC **ENVIR SCIENTIST TECH** **EOC:** LABOR
Res Dept: 949 **Overtime:** FY01 **Class:** SAL

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Hours:	196.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	196.0	196.0	196.0	196.0	196.0	196.0	196.0	196.0	196.0	196.0
Yr Total Cost:	5,551	0	0	0	0	0	0	0	0	0
Cum Total Cost:	5,551	5,551	5,551	5,551	5,551	5,551	5,551	5,551	5,551	5,551

Resource: FIELDSUB **FIELD SUBS** **EOC:** SUBCONTRACTORS
Res Dept: **Overtime:** FY03 **Class:** SUB

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Units:	4,273,034.0	575,220.0	539,040.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Units:	4,273,034.0	4,848,254.0	5,387,294.0	5,387,294.0	5,387,294.0	5,387,294.0	5,387,294.0	5,387,294.0	5,387,294.0	5,387,294.0
Yr Total Cost:	4,273,034	590,751	568,541	0	0	0	0	0	0	0
Cum Total Cost:	4,273,034	4,863,785	5,432,326	5,432,326	5,432,326	5,432,326	5,432,326	5,432,326	5,432,326	5,432,326

Resource: INRREP **INFO RECORDS REP** **EOC:** LABOR
Res Dept: 949 **Overtime:** FY01 **Class:** SAL

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Hours:	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Yr Total Cost:	148	0	0	0	0	0	0	0	0	0
Cum Total Cost:	148	148	148	148	148	148	148	148	148	148

Resource: LABCHM **CHEMIST** **EOC:** LABOR
Res Dept: 949 **Overtime:** FY01 **Class:** SAL

	Oct 00-	Oct 01-	Oct 02-	Oct 03-	Oct 04-	Oct 05-	Oct 06-	Oct 07-	Oct 08-	Oct 09-

	Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	Sep 08	Sep 09	Sep 10
Yr Hours:	60.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
Yr Total Cost:	2,326	0	0	0	0	0	0	0	0	0
Cum Total Cost:	2,326	2,326	2,326	2,326	2,326	2,326	2,326	2,326	2,326	2,326

Resource: LABTEC **LAB TECH** **EOC:** LABOR
Res Dept: 949 **Overtime:** FY01 **Class:** SAL

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Hours:	66.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	66.0	66.0	66.0	66.0	66.0	66.0	66.0	66.0	66.0	66.0
Yr Total Cost:	1,834	0	0	0	0	0	0	0	0	0
Cum Total Cost:	1,834	1,834	1,834	1,834	1,834	1,834	1,834	1,834	1,834	1,834

Resource: MAT300 **MATERIAL OBJCLASS300** **EOC:** MATERIAL
Res Dept: 949 **Overtime:** FY01 **Class:** MAT

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Units:	1,593,883.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Units:	1,593,883.0	1,593,883.0	1,593,883.0	1,593,883.0	1,593,883.0	1,593,883.0	1,593,883.0	1,593,883.0	1,593,883.0	1,593,883.0
Yr Total Cost:	1,593,883	0	0	0	0	0	0	0	0	0
Cum Total Cost:	1,593,883	1,593,883	1,593,883	1,593,883	1,593,883	1,593,883	1,593,883	1,593,883	1,593,883	1,593,883

Resource: QACENG **QA ENGINEER** **EOC:** LABOR
Res Dept: 949 **Overtime:** FY01 **Class:** SAL

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Hours:	33.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0
Yr Total Cost:	1,517	0	0	0	0	0	0	0	0	0
Cum Total Cost:	1,517	1,517	1,517	1,517	1,517	1,517	1,517	1,517	1,517	1,517

Resource: RADTEC **RAD TECH** **EOC:** LABOR
Res Dept: 949 **Overtime:** FY01 **Class:** SAL

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Hours:	78.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	78.0	78.0	78.0	78.0	78.0	78.0	78.0	78.0	78.0	78.0
Yr Total Cost:	2,658	0	0	0	0	0	0	0	0	0
Cum Total Cost:	2,658	2,658	2,658	2,658	2,658	2,658	2,658	2,658	2,658	2,658

09/07/2001
11:16 AM

Resource: S&HENG **SAFETY ENGINEER** **EOC:** LABOR
Res Dept: 949 **Overtime:** FY01 **Class:** SAL

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Hours:	19.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Yr Total Cost:	944	0	0	0	0	0	0	0	0	0
Cum Total Cost:	944	944	944	944	944	944	944	944	944	944

Resource: SERVSUB **SUBS** **EOC:** SUBCONTRACTORS
Res Dept: 949 **Overtime:** EQUP **Class:** SUB

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Units:	205,704.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Units:	205,704.0	205,704.0	205,704.0	205,704.0	205,704.0	205,704.0	205,704.0	205,704.0	205,704.0	205,704.0
Yr Total Cost:	205,704	0	0	0	0	0	0	0	0	0
Cum Total Cost:	205,704	205,704	205,704	205,704	205,704	205,704	205,704	205,704	205,704	205,704

Resource: WISE **WISE CONSTRUCTION** **EOC:** SUBCONTRACTORS
Res Dept: 949 **Overtime:** FY01 **Class:** SUB

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Units:	695,950.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Units:	695,950.0	695,950.0	695,950.0	695,950.0	695,950.0	695,950.0	695,950.0	695,950.0	695,950.0	695,950.0
Yr Total Cost:	695,950	0	0	0	0	0	0	0	0	0
Cum Total Cost:	695,950	695,950	695,950	695,950	695,950	695,950	695,950	695,950	695,950	695,950

Resource: WSTENG **WASTE ENGINEER** **EOC:** LABOR
Res Dept: 949 **Overtime:** FY01 **Class:** SAL

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Hours:	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Yr Total Cost:	408	0	0	0	0	0	0	0	0	0
Cum Total Cost:	408	408	408	408	408	408	408	408	408	408

GRAND TOTALS:

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Hours:	980.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Hours:	980.0	980.0	980.0	980.0	980.0	980.0	980.0	980.0	980.0	980.0
Yr Total Cost:	6,805,341	590,751	568,541	0	0	0	0	0	0	0
Cum Total Cost:	6,805,341	7,396,092	7,964,633	7,964,633	7,964,633	7,964,633	7,964,633	7,964,633	7,964,633	7,964,633

CAM_____ CONTROL TEAM_____

INCLUDES ESCALATION COSTS

CCPLA

OSDF CELL #2 CAP

09/07/2001
11:18 AM

PBS: OHFN03
WBS: 1.1.C.D
CTRL ACCT: CCPL
CHARGE NO: CCPLA
COMMENT NO N/A

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

DATE: 05-Sep-01
PROJECT MGR: JD Chiou
CAM: JD Chiou
PREPARED BY: W. F. Fick
FISCAL YEAR: 2005-2006

Resource: **FIELDSUB** **FIELD SUBS** **EOC:** **SUBCONTRACTORS**
Res Dept: **949** **Overtime:** **Class:** **SUB**

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Units:	0.0	0.0	0.0	0.0	3,174,372.8	1,039,217.2	0.0	0.0	0.0	0.0
Cum Units:	0.0	0.0	0.0	0.0	3,174,372.8	4,213,590.0	4,213,590.0	4,213,590.0	4,213,590.0	4,213,590.0
Yr Total Cost:	0	0	0	0	3,538,222	1,191,925	0	0	0	0
Cum Total Cost:	0	0	0	0	3,538,222	4,730,146	4,730,146	4,730,146	4,730,146	4,730,146

GRAND TOTALS:

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Total Cost:	0	0	0	0	3,538,222	1,191,925	0	0	0	0
Cum Total Cost:	0	0	0	0	3,538,222	4,730,146	4,730,146	4,730,146	4,730,146	4,730,146

CAM_____ CONTROL TEAM_____

INCLUDES ESCALATION COSTS

Fluor Fernald, Inc.

CCPLA

PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #2 #3, #4, #5, #6, & #7 Caps
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-05-A5 & A6
C2-2001-005-05-B6 & B7
C2-2001-005-05-D7 & D8
C2-2001-005-05-F8 & F9
C2-2001-005-05-H9 & H10
C2-2001-005-05-K9 & K10

BASIS OF ESTIMATE

SUPPORTING DOCUMENTATION:

Verbal Scope	☒	P & ID's	☐	Work Plan	☐
Drawings	☐	Equipment List	☐	Site Walk	☐
Sketches	☐	Specifications	☐	Eng. Mtg.	☒
Flow Diagrams	☐	Written Scope	☒	Estimate	☐

TYPE OF ESTIMATE:

Change Proposal	☐	Government	☐
Plan/Feasibility	☐	Conceptual	☐
Construction	☐	Title I Design	☐
Budget	☒	Independent	☐

BASIS OF ESTIMATE:

These estimates present the baseline cost for construction of the OSDF Cell caps. Each cell comprises two estimates, the earlier FY for the Bio-intrusion Barrier and the latter FY for the Filter, Vegetative Cover, and Vegetation. The included scope is from the Baseline Closure Plan and associated supporting documents. Durations are from the OSDF schedules and are presented in Appendix D. Control and Management is not included in these estimates; it is, however, included in a separate C & M estimate. Both projects are by the sub-contractor. Surveying by a three person sub-contractor crew at $140/hour is included. Both the surveying and project staffing costs are allocated among the various simultaneous OSDF projects per the OSDF documents and chart. Equipment operating costs assume an 85% operations factor unless otherwise indicated.

Fluor Fernald, Inc.

PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #2, #3, #4, #5, #6, & #7 Caps
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-05-A5 & A6
C2-2001-005-05-B6 & B7
C2-2001-005-05-D7 & D8
C2-2001-005-05-F8 & F9
C2-2001-005-05-H9 & H10
C2-2001-005-05-K9 & K10

Fluor Fernald purchases geo-synthetics (GML, Geotextile, etc.). Deployment of the geo-synthetics is by the sub-contractor. Welding and sewing is by a specialty contractor.

Fluor Fernald, Inc.
PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #2, #3, #4, #5, #6, & #7 Caps
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-05-A5 & A6
C2-2001-005-05-B6 & B7
C2-2001-005-05-D7 & D8
C2-2001-005-05-F8 & F9
C2-2001-005-05-H9 & H10
C2-2001-005-05-K9 & K10

ESTIMATE ASSUMPTIONS

EXECUTION:

- ☒ This project is to be performed on a 50-hour week, 10 hours a day.
- ☐ This project is to be performed on a 40-hour week, 8 hours a day.
- ☒ Premium time allowed.

WAGE RATES:

- ☒ Wage rates within this estimate are based on Project Labor Agreement rates, effective October 2000 and are considered FY01 dollars for estimating.
- ☐ Wage rates within this estimate are based on FF Support Contractor FSC 645 wage rates, effective January 30, 2001 and are considered FY01 dollars for estimating.
- ☐ Wage rates within this estimate are based on FF FTE Planning Labor Rates FY01.

ENGINEERING:

- ☒ N/A
- ☐ Engineering dollars provided by the Project Engineer.
- ☐ Engineering dollars have been factored in at the standard 12% of the total direct and indirect field costs as per request of Project Engineer.

CONSTRUCTION MANAGEMENT:

- ☐ N/A
- ☒ Construction Management staffing by discipline has been included.
- ☐ Construction Management dollars have been factored in at the standard 30% of the total direct and indirect field costs as per request of Project Engineer.

PROJECT MANAGEMENT:

- ☒ N/A

Fluor Fernald, Inc.
PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #2, #3, #4, #5, #6, & #7 Caps
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-05-A5 & A6
C2-2001-005-05-B6 & B7
C2-2001-005-05-D7 & D8
C2-2001-005-05-F8 & F9
C2-2001-005-05-H9 & H10
C2-2001-005-05-K9 & K10

☐ Project Management dollars provided by the Project Engineer.
☐ Project Management dollars have been factored in at the standard 30% of the total direct and indirect field costs as per request of Project Engineer.

WASTE PROGRAM MANAGEMENT:
☒ N/A
☐ Waste Program Management dollars provided by the Project Engineer.

PRODUCTIVITY:
A productivity factor has been developed and applied to the unit man-hours derived from MEANS, Richardson, NECA, and or any other published estimating source. See attachment APPENDIX "A" and APPENDIX "B".

ESCALATION:
Escalation costs are excluded from the target estimate. The escalation costs are calculated within the Micro-Frame computer system according to the plan for rebaselining.

UNIT RATES:
Unit man-hours and material dollars are based on Richardson, MEANS, NECA, National Constructor, historical data at Fernald, and or other published rates. Some man-hours and equipment requirements are provided by engineering and CM. Equipment rental rates and hourly operating costs are from the Blue Book Volume 1.

G & A (HO EXPENSE):
G & A are excluded from the target estimate. The G & A cost are calculated within the Micro-Frame computer system according to the plan for rebaselining.

Fluor Fernald, Inc.
PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #2, #3, #4, #5, #6, & #7 Caps
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-05-A5 & A6
C2-2001-005-05-B6 & B7
C2-2001-005-05-D7 & D8
C2-2001-005-05-F8 & F9
C2-2001-005-05-H9 & H10
C2-2001-005-05-K9 & K10

HEALTH PHYSICS:
See attached APPENDIX "C".

RISK BUDGET:
N/A

CONTINGENCY:
N/A

Fluor Fernald, Inc.
PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #2, #3, #4, #5, #6, & #7 Caps
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-05-A5 & A6
C2-2001-005-05-B6 & B7
C2-2001-005-05-D7 & D8
C2-2001-005-05-F8 & F9
C2-2001-005-05-H9 & H10
C2-2001-005-05-K9 & K10

ESTIMATE INCLUSIONS & EXCLUSIONS

INCLUSIONS:

- Mobilization.
- Demobilization.
- Labor hours.
- Material dollars.
- Equipment rental.
- Equipment operating.
- Contractor staffing.
- Geosynthetics purchase by FF.

EXCLUSIONS:

- Permits and fees.
- FF G & A (Home Office Expense).
- Escalation due to volatile petroleum costs.
- Any second tier subcontract costs.
- Project Management dollars.
- Waste Management dollars.
- Control & Management
- Landlord costs.

ESTIMATE SUMMARY SHEET

FLUOR FERNALD

PROJECT:	Baseline OSDF CELL #2 CAP, FY06	DATE:	16-May-01
ESTIMATE #:	C2 -01-05-05-A6	ESTIMATOR:	RIS
CLIENT:	DOE	LOCATION:	FERNALD
WBS #:	1.1.C.D	TASK NO.:	CCPLA

ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	EQUIP. $	TOTAL $
Insurance & Bond				incl in prior FY			
Submittals	89		$2,100		$100		$2,200
Overhead and Profit				$103,660			$103,660
Off Hours Dust Control w/FY 05							
Mobilization				$3,380	$80		$3,460
Site Prep							
Granular Filter layer	820		$19,790		$61,200	$40,650	$121,640
Vegetative Soil Layer	2,600		$62,650			$107,960	$170,610
Vegetation	409		$9,670	$10,880	$24,180	$2,810	$47,540
Stabilization of Stockpiles	200		$4,960	$10,000		$4,210	$19,170
Close Out	463		17,720	$1,100	$750	$970	$20,540
Survey				$14,300			$14,300
Project Staffing	823		26,830				$26,830
DIRECT FIELD COSTS TOTAL	**5,404**	**$26.60**	**$143,720**	**$143,320**	**$86,310**	**$156,600**	**$529,950**
SUPERVISION - CONTRACTOR							
SMALL TOOLS & CONSUMABLES	-	-	-		$2,100		$2,100
MISC. EQUIP. RENTAL	-	-	-			$8,000	$8,000
TEMPORARY FACILITIES incl w/Mobilization							
TEMPORARY UTILITY HOOK-UP incl w/Mobilzation							
JOB CLEAN-UP incl w/Job Close-out							
PER DIEM / SUBSISTANCE	-	-	-				
HEALTH PHYSICS S/C incl w/Submittals							
CERCLA - TRAINING incl w/Submittals							
GET/SITE ACCESS & JOB SPECIFIC TRAINING w/su							
PAYROLL BURDENS & BENEFITS	-	-	$81,900				$81,900
OVERHEAD & PROFIT see above	-	-	-				
BOND see above	-	-	-				$8,100
SALES TAX	-	-	-		$5,300	$9,900	$15,200
INDIRECT FIELD COSTS TOTAL			**$81,900**		**$7,400**	**$17,900**	**$107,200**
DIRECT & INDIRECT FIELD COSTS TOTAL	**5,404**		**$225,620**	**$143,320**	**$93,710**	**$174,500**	**$637,150**
TARGET ESTIMATE			**(FY 01 DOLLARS)**				**$637,200**

ESTIMATE PERFORMED BY ESTIMATING SERVICES

ESTIMATE SUMMARY SHEET

PROJECT: Baseline OSDF CELL #2 CAP, FY06 — DATE: 16-May-01

ESTIMATE NO. C2 -01-05-05-A6 — ESTIMATOR: RIS

CLIENT: DOE — LOCATION: FERNALD

WBS NO.: 1.1.C.D — TASK NO.: CCPLA

FACTORS

FIXED PRICE $	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
DFC DOLLARS	$143,720	$143,320	$86,310	$156,600		$529,950
IFC COST FACTOR	1.5699	–	1.0243	1.0511	–	
BOND + OVERHEAD & PROFIT COST FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	
SALES TAX	-	-	1.0600	1.0600	1.0600	
DIRECT FIELD COST FACTOR =	1.5699	1.0000	1.0858	1.1142	1.0600	
BASE ESTIMATE $'S	$225,620	$143,320	$93,715	$174,476		$637,131
BASE FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	
TARGET ESTIMATE FACTOR	1.5699	1.0000	1.0858	1.1142	1.0600	
FPS TARGET ESTIMATE (FY00 $)	$225,620	$143,320	$93,715	$174,476		$637,131

NOTE:

IF THERE ARE NO DFC EQUIP. $, ENTER THE IFC EQUIP. $'S INTO THE DIRECT FIELD COST TOTAL AND DELETE IFC FACTOR IN G65.

ESTIMATE SUMMARY SHEET

PROJECT: Baseline OSDF CELL #2 CAP, FY06 | DATE: 16-May-01

ESTIMATE NO. C2 -01-05-05-A6 | ESTIMATOR: RIS

DIRECT FIELD COST W/FACTORS

CLIENT: DOE | LOCATION: FERNALD

WBS NO.: 1.1.C.D | TASK NO.: CCPLA

PAY ITEM NO.	DESCRIPTION	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
		(ASSIGN OR PRORATE PPE MAT'L.$'S)–>>					
	Insurance & Bond		incl in prior FY				
	Submittals	2100		100			
		$3,300		$110			$3,410
	Overhead and Profit		103660				
			$103,660				$103,660
	Off Hours Dust Control w/FY 05						
	Mobilization		3380	80			
			$3,380	$90			$3,470
	Site Prep						
	Granular Filter layer	19790		61200	40650		
		$31,070		$66,450	$45,290		$142,810
	Vegetative Soil Layer	62650			107960		
		$98,350			$120,280		$218,630
	Vegetation	9670	10880	24180	2810		
		$15,180	$10,880	$26,250	$3,130		$55,440
	Stabilization of Stockpiles	4960	10000		4210		
		$7,790	$10,000		$4,690		$22,480
	Close Out	17720	1100	750	970		
		$27,820	$1,100	$810	$1,080		$30,810
	Survey		14300				
			$14,300				$14,300
	Project Staffing	26830					
		$42,120					$42,120
TOTAL DIRECT FIELD COSTS W/FACTORS		(FY01 DOLLARS)					$637,130

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #2 CAP, FY06
ESTIMATE NO.: C2 -01-05-05-A6
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 16-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLA

ITEM NO.	SUMMARY	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST / UNIT Labor	COST / UNIT S/C	COST / UNIT Mat'l	COST / UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Insurance & Bond											incl in prior FY			
	Submittals w/FY 05				89						$2,100		$100		$2,200
	Overhead and Profit											$103,660			$103,660
	Mobilization											$3,380	$80		$3,460
	Site Prep														
	Survey											$14,300			$14,300
	Granular Filter layer				820						$19,790		$61,200	$40,650	$121,640
	Vegetative Soil Layer				2,600						$62,650			$107,960	$170,610
	Vegetation				409						$9,670	10,880	24,180	2,810	$47,540
	Stabilization of Stockpiles				200						$4,960	10,000		4,210	$19,170
	Close Out				463						$17,720	1,100	750	970	$20,540
	Project Staffing				823						$26,830				$26,830
	Off Hours Dust Control w/FY 05														
	Subtotal Direct Cost	1	LOT		5404	$26.60					143,720	143,320	86,310	156,600	$529,950

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #2 CAP, FY06
ESTIMATE NO.: C2 -01-05-05-A6
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 16-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLA

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Insurance & Bond							COST							
	Performance bond 1.3%							THRU							
	Insurance 1.5%							OH & P							
	Sub-total 2.8%	17410						621948				incl in prior FY			
	Submittals														
D	Plans														
D	Technical submittals														
D	Site access & GET traing, cnstrct work force														
D	Site access & GET traing, PM, CM etc														
D	Site access & GET traing, surveyers & others			incl w/FY 05											
mD	CERCLA/RAD II training, constrct work force														
mD	CERCLA/RAD II traing, PM, CM etc														
mD	CERCLA/RAD II traing, surveyers & others														
D	Health Physics	1	LOT		89	23.64					$2,100		$100		$2,200
	Sub-total				89						$2,100		$100		$2,200
	Overhead and Profit														
				20%								$103,660			$103,660
D															
D															
D															
D															
D															
D															

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #2 CAP, FY06
ESTIMATE NO.: C2 -01-05-05-A6
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 16-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLA

	Mobilization	QTY	UNIT	MAN-HOURS			COST/UNIT				LABOR	S/C	MAT'L	EQUIP	TOTAL
				Unit	Total	Rate	Labor	S/C	Mat'l	Equip					
	S/C Office Trailer 2 reqd	2.1	MO					550				$2,280			$2,280
	Support trailers 1 reqd	2.1	MO					350				$730			$730
	Portable toilets 2 ea	2.1	MTH					85				$350			$350
	Potable water, Allow 5jug/mth, $8/jug	2.1	MTH					12	40			$20	$80		$100
	Mobilization											3,380	80		$3,460

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #2 CAP, FY06
ESTIMATE NO.: C2 -01-05-05-A6
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 16-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLA

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Off Hours Dust Control Included w/ Cell 2 Cap FY05														
D	Survey 2.1 mth							140				$14,300			$14,300
	Subtotal Direct Cost	1	LOT									**$14,300**			**$14,300**

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #2 CAP, FY06
ESTIMATE NO.: C2 -01-05-05-A6
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 16-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLA

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Granular Filter layer														
	Granular filter, sand, 10% waste	12000	ton						5.1				$61,200		$61,200
	Receive & stockpile	12000	ton												
D	1 operator	6	DAY	10	60	27.03					$1,620				$1,620
D	1 laborer	6	DAY	10	60	22.65					$1,360				$1,360
	Dozer, D8 6 day -	0.28	MTH							13145				$3,640	$3,640
	Dozer, D8 @85%		HR	51						39.66				$2,020	$2,020
	Load, haul, & place														
D	2 operators	10	DAY	20	200	27.03					$5,410				$5,410
D	1 laborer	10	DAY	10	100	22.65					$2,260				$2,260
D	4 teamsters	10	DAY	40	400	22.86					$9,140				$9,140
	Dozer, D6 LGP 10 day -	0.46	MTH							8245				$3,810	$3,810
	Loader, Cat 966 10 day -	0.46	MTH							6820				$3,150	$3,150
	4 Trucks, Volco A30 10 day -	0.46	MTH							7905				$14,590	$14,590
	Dozer, D6 LGP @85%		HR	85						24.76				$2,100	$2,100
	Loader, Cat 966 @ 85%		HR	85						24.90				$2,120	$2,120
	4 Trucks, Volco A30 @ 85%		HR	340						27.12				$9,220	$9,220
	Granular Filter layer	**1**	**LOT**		**820**	**$24.13**					**19,790**		**61,200**	**40,650**	**$121,640**

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #2 CAP, FY06
ESTIMATE NO.: C2 -01-05-05-A6
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 16-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLA

ITEM NO.			QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Vegetative Soil Layer															
	Load & haul															
D	1 operator		20	DAY	10	200	27.03					$5,410				$5,410
D	6 teamsters		20	DAY	10	1200	22.86					$27,430				$27,430
	Excavator Cat 330		0.92	MTH							11490				$10,610	$10,610
	6 Trucks, Volco A30		0.92	MTH							7905				$29,190	$29,190
	Excavator, Cat 330 @ 85%			HR	170						24.90				$4,230	$4,230
	6 Trucks, Volco A30 @ 85%			HR	1020						27.12				$27,660	$27,660
	Place Vegetative Soil Layer															
D	3 operator		20	DAY	10	600	27.03					$16,220				$16,220
D	3 laborers		20	DAY	10	600	22.65					$13,590				$13,590
	Dozer Cat D6		0.92	MTH							7040				$6,500	$6,500
	Sheepsfoot roller, Cat 825		0.92	MTH							4335				$4,000	$4,000
	Smooth drum roller, Cat 563		0.92	MTH							13390				$12,360	$12,360
	Dozer Cat D6 @	85%		HR	170						21.87				$3,720	$3,720
	Sheepsfoot roller @	85%		HR	170						41.55				$7,060	$7,060
	Smooth drum roller, Cat 825 @	85%		HR	170						15.48				$2,630	$2,630
	Sub-total					2600						$62,650			$107,960	$170,610
	Vegetation															
D	Erosion mat, jute		315810	sf	0.001	409	23.64			0.077	0.009	$9,670		$24,180	$2,810	$36,660
D	Vegetation		7.25	acre					1500				$10,880			$10,880
	Sub-total					409						$9,670	10880	24180	2810	$47,540
	Stabilization of Stockpiles															
D	Laborers, 2 reqd		5	DAY	20	100	22.65					$2,260				$2,260
D	Operator, 2 reqd		5	DAY	20	100	27.03					$2,700				$2,700
	Dozer D6	1 wk	0.23	MTH							7040				$1,620	$1,620
	Steel drum roller	1 wk	0.23	MTH							4335				$1,000	$1,000
	Dozer D6 @ 85 %			HR	43						21.87				$930	$930
	Steel drum roller @ 85%			HR	43						15.48				$660	$660
	Crusting agent		5	acre					2000				$10,000			$10,000
	Sub-total					200						$4,960	$10,000		$4,210	$19,170

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #2 CAP, FY06
ESTIMATE NO.: C2 -01-05-05-A6
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 16-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLA

ITEM NO.		QTY	UNIT	Unit	Total	Rate	COST/UNIT Labor	S/C	Mat'l	Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Close Out														
D	Job Clean-up	1	LOT	1%	32	23.64					$750		$250		$1,000
D	Project Closeout documents	25	EA	10	250	50.64					$12,660				$12,660
	Demobilization														
D	Complete Punch List Items.	1	LS	80	80	23.64				100	$1,890			$100	$1,990
D	Remove Trailers	1	LS	8	8	23.64		1,000	500	500	$190	$1,000	$500	$580	$2,270
D	Remove Utilities.	1	LS	20	20	24.93		100			$500	$100			$600
D	Loadout Contractors Equipment.	25	EA	2	50	23.64				10	$1,180			$290	$1,470
D	Remove fence	1000	LF	0.023	23	23.64					$550				$550
	Subtotal				463						$17,720	1100	750	970	$20,540
		1	LOT		926	$38.27					35,440	2,200	1,500	1,940	$41,080

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #2 CAP, FY06
ESTIMATE NO.: C2 -01-05-05-A6
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 16-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLA

ITEM NO.			QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Project Staffing		Shared percent													
D	Project Manager	2.1 mth	20%	hr	1	46	54.42					$2,480				$2,480
D	General Superintendent	2.1 mth	20%	hr	1	46	37.85					$1,720				$1,720
D	Superintendent	2.1 mth	25%	hr	2	203	32.99					$6,710				$6,710
D	Project Engineer	2.1 mth	30%	hr	1	122	33.19					$4,050				$4,050
D	Quality Engineer	2.1 mth	25%	hr	2	203	28.05					$5,700				$5,700
D	Safety Engineer	2.1 mth	25%	hr	2	203	30.34					$6,170				$6,170
D	Office Administration	in overhead					19.31									
D	Contract Administration/ Schedu	in overhead					25.58									
D	Clerical	in overhead					14.58									
	TOTAL					823	32.59					$26,830				$26,830
			1	LOT												

APPENDIX " A"

PROJECT: Baseline OSDF CELL #2 CAP, FY06
ESTIMATE NC C2 -01-05-05-A6
CLIENT: DOE
WBS NO.: 1.1.C.D

SITE SPECIFIC

EFFICIENCY / MULTIPLIER ANALYSIS

DATE: 16-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLA

PERCENT OF INFLUENCE ON CHART MANHOURS

	40%	50%	60%	70%	80%	90%	100%	105%	110%	% OF NFLUENCE	WT'D VALUE	PROD. RESULT
CRAFT SKILL (NOTE 1)	POOR			FAIR			STD	V.GOOD	EXCELLENT	90.0%	12.0%	0.108
CRAFT AVAIL.(NOTE 1)		POOR		FAIR			STD			100.0%	8.0%	0.08
CLIMATE (NOTE 2)	SEVERE	ICE/SNOW			RAIN		+40 TO +85			80.0%	20.0%	0.16
PLANT ELEVATION		OVER 10,000FT			5,000' TO 10,000 FT		UNDER 5,000 FT			100.0%	5.0%	0.05
WORK SPACE				200 SF	250 SF	300 SF	350 SF			100.0%	10.0%	0.1
	<---- MULTIPLE SHIFTS-											
WORK WEEK						5-10s per Means R010-110				85.0%	15.0%	0.1275
50 HOUR WORK WEEK	////////// ////// MULTIPLE-SHIFT //////////	//////////	//////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS				0.0%	0.0%	0
60 HOUR WORK WEEK	////////// //////////	////////// //////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS					0.0%	0.0%	0
SHIFTWORK							OR					
2ND SHIFT					2ND SHIFT		ONE SHIFT			100.0%	3.0%	0.03
3RD SHIFT			3RD SHIFT				ONLY			100.0%	5.0%	0.05
PROJECT SIZE					400M MH AND UP	300M TO 400M MH	200M TO 300M MH	200M MH OR LESS		105.0%	4.0%	0.042
PLANT TYPE				REVAMP ONLY	REVAMP & NEW	NEW IN EXIST PLT	GRASS ROOTS			95.0%	8.0%	0.076
AREA/UNION INFLUENCE	STRONG		MILD		SOME		NONE			80.0%	10.0%	0.08
											100.0%	90.4%

NOTES.....
1. TURNOVER HAS BEEN CONSIDERED

2. FOR EXTERIOR WORK ONLY

EFFICIENCY (AS A % OFF CHART MANHOURS) 90.4%

MULTIPLIER - (TO BE APPLIED TO CHART M.H.'S TO OBTAIN SITE M.H.'S) 1.11

EFFICIENCY FACTORS

PROJECT: Baseline OSDF CELL #2 CAP, FY06
ESTIMATE NO. C2 -01-05-05-A6
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 16-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLA

EXAMPLE:

STANDARD CHART MANHOURS =	NET	100
EFFICIENCY FACTORS:		
* SITE SPECIFIC (SEE APPENDIX A)	[redacted]	11.0
S/T = BASE UNIT MANHOURS		111
OVERTIME PRODUCTIVITY FACTOR	0.00%	0
(SEE DETAIL WORKSHEET BACK-UP)		111
* TASK SPECIFIC (confined space, high elevation, congestion, etc.)	0.0%	0
		111

* PPE SPECIFIC (Based on current data and estimating knowledge)

	PPE LEVEL									
	D		Mod.'D'		Mod. "C"		C		C+	
PRODUCTIVITY HOURS		MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's
(AS A %) / ADD MH's	5.00%	6	27.00%	30	64.00%	71	72.00%	80	96.00%	107
(AS A MULTIPLIER)/TOTAL HRS	1.05	116.6	1.27	141	1.64	182	1.72	190.9	1.96	217.6
TOTAL MULTIPLIER w/SITE PROD.	1.1655		1.4097		1.8204		1.9092		2.1756	

NOTE : Use the Default Productivity Factor of 'mC' for working in a contaminated area if the Safety Level cannot be determined.

(SEE FD FERNALD ESTIMATING SERVICES REFERENCE MANUAL IM-6006 8.10)

Total hours worked in a specific PPE level divided by 10 hour working days = (PPE) ManDays to determine material cost of PPE's.
(SEE APPENDIX C - HEALTH PHYSICS)

	12.0	Man Days	14.0	Man Days	18.0	Man Days	19.0	Man Days	22.0	Man Days

THESE EFFICIENCY FACTORS WERE APPLIED INDIVIDUALLY THROUGHOUT THE ESTIMATE AT A TASK SPECIFIC LEVEL, TO OBTAIN A MORE ACCURATE ACCOUNT OF OVERALL EFFICIENCY IMPACT DUE TO PPE REQUIREMENTS IN HANDLING CONTAMINATED AND HAZARDOUS WASTE.

EFFICIENCY FACTORS

PROJECT: Baseline OSDF CELL #2 CAP, FY06
ESTIMATE NO. C2 -01-05-05-A6
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 16-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLA

PPE MULTIPLIER DEVELOPEMENT

		D	mD	mC	C	C+
CREW SIZE & MAKE-UP	STANDARD	7	7	7	7	7
	WORKER-BUDDY	0	0	0	0	0
	SUPPORT TEAM	0	0	0	0	0
	TOTAL CREW	7	7	7	7	7
CREW SIZE RATIO		1.00	1.00	1.00	1.00	1.00
AVAILABLE WORK TIME FACTOR		0.95	0.79	0.71	0.71	0.68
PPE LABOR PRODUCTIVITY FACTOR		1	1	0.86	0.82	0.75
NET PRODUCTIVITY RATIO		0.95	0.79	0.611	0.582	0.51
NET PRODUCTIVITY MULTIPLIER		1.05	1.27	1.64	1.72	1.96

These factors were based on Tables 6.1 and 6.2, Moderate Work Efforts, 66F to 85F temperature of 'Hazardous Waste Cost Control' by R.A.Selg.
Modifications were made to reflect a 10 hour work day and no buddy system or support team for levels D, mC and C.
The worker-buddy and support team members, if required, may be covered under Construction Mgmt. (Rad Techs).

AVAILABLE WORK TIME FACTOR		D	mD	mC	C	C+
TOTAL WORK MINUTES per [5 - 10's		600	600	600	600	600
ADDITN'L SITE SAFETY MEETINGS NOT INCLD. IN BAS	QUANTITY	1	1	1	1	1
	MINUTES	25	25	25	25	25
TOTAL		25	25	25	25	25
PPE DON & DOFFING	QUANTITY	0	0	3	3	3
(ADJUST LEVEL D per WORK PLAN)	MINUTES	0	0	15	15	20
TOTAL			0	45	45	60
WORK BREAKS	QUANTITY	N/A	2	2	2	2
(ADJUST LEVEL D per WORK PLAN)	MINUTES	N/A	15	15	15	15
TOTAL			30	30	30	30
MOBILIZATION - ROUND TRIPS	QUANTITY	N/A	4	4	4	4
(ADJUST LEVEL D per WORK PLAN)	MINUTES	N/A	15	15	15	15
TOTAL			60	60	60	60
COOLDOWNS PER DAY	QUANTITY	2	3	4	4	4
** (2 OUT OF 8 MONTHS) 25.00%	MINUTES	10	12	15	15	15
TOTAL		5	9	15	15	15
AIR TANK REPLACEMENT	QUANTITY	N/A	N/A	N/A	N/A	N/A
	MINUTES	N/A	N/A	N/A	N/A	N/A
TOTAL						
AVAILABLE WORK TIME		570	476	425	425	410
AVAILABLE WORK TIME FACTOR		0.95	0.79	0.71	0.71	0.68

NOTE: Adjust 'Work Minutes per Day' basis to: 5 - 8's, or leave as 4 - 10's . Any other circumstances, over-ride the minutes per day.

** Assumption based on work performed in May, June, July & August, pro-rating cost over one year. Adjust % to individual circumstances. Changed to July & August over an 8 mth period.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: Baseline OSDF CELL #2 CAP, FY06
ESTIMATE NO. C2 -01-05-05-A6
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 16-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLA

PPE"s - PERSONAL PROTECTIVE EQUIPMENT

DESCRIPTION	UNIT	UNIT COST	* NO. OF CHANGE OUTS PER WORKER PER DAY				
			Man Days (TOTAL HOURS worked in PPE's Div. by WORK HOURS / DAY)				
PPE LEVEL C / C+ / B : F/HF MASK w/RESP.&CART.			*	MAN DAYS	MAT'L.$'s	PPE LEVEL	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	(DOUBLE PPE)
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	C / C+	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	C / C+	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	C / C+	
APR CARTRIDGES - DISPOSABLE	PR	$6.98	3	0	$0	C / C+	
SUB-TOTAL		$17.42	3		$0		
				$/MD =	$0.00		
PPE LEVEL mC : FULL DRESS w/ FACE SHIELD				MAN DAYS	MAT'L.$'s	PPE LEVEL	
LT.WT. DISPOSABLE COVERALLS W/HOOD & BOOTIE	PR	$4.46	3	0	$0	mC	
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	mC	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	mC	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	mC	
SUB-TOTAL		$5.98	3		$0		
				$/MD =	$0.00		
SUBCONTRACTOR REQUIRED PURCHASES			QTY. PER WKR.	NO. OF WORKERS	MAT'L.$'s	PPE LEVEL	
RUBBER BOOT COVERS-(1)PR.PER WORKER	PR	$12.70	2	5	$127	D/C/B	
APR w/HALF FACE MASK - (1) PER WORKER	EA	$22.30	6	0	$0	C	
APR w/FULL FACE MASK - (1) PER WORKER	EA	$174.00	6	0	$0	C	
SCBA	EA	$1,894.00	2	0	$0	B	
COOL VESTS	EA	$137.50	6	0	$0	C/B	
THERMO STRIPS	EA	$50.00	6	0	$0	C/B	
SUB-TOTAL					$130		

TOTAL PPE's = MAT'L.$'s $100

(FORWARD TO PAGE 2 OF 2)

OTHER PPE's SUCH AS HARD HAT, SAFETY GLASSES/GOGGLES, STEEL TOED SAFETY SHOES, HEARING PROTECTION, ARE CONSIDERED THE SUBCONTRACTORS RESPONSIBILITY AND ARE COVERED IN HIS OVERHEAD EXPENSE.
COSTS OF FD FERNALD SUPPLIED PPE's, SUCH AS COTTON COVERALLS, EXCHANGE OF RUBBER BOOT COVERS AND RESPIRATORS FOR CHANGEOUTS AND CLEANING OF SAME IS INCURRED BY FD FERNALD AND COSTS ARE NOT INCLUDED AS PART OF PROJECT COSTS AT THIS TIME.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: Baseline OSDF CELL #2 CAP, FY06
ESTIMATE NO. C2 -01-05-05-A6
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 16-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLA

--MEDICAL MONITORING --

MEDICAL - PHYSICAL and IN-VIVO MONITORING - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION PHYSICAL (3hrs), IN-VIVO (1hr)	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $	
BASELINE PHYSICALS	1	4	0	0	$26.60	$0	
ANNUAL PHYSICALS	0	4	0	0	$26.60	$0	
EXIT (TERMINATION) PHYSICALS (IN-VIVO)	1	1	0	0	$26.60	$0	
SUB-TOTAL						$0	

RADIATION IN-VITRO SURVEILLANCE - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $	
BI-MONTHLY BIOASSAY	6	1	0	0	$26.60	$0	
SUB-TOTAL						$0	

RANDOM DRUG TESTING

	TESTS	HRS	TOTAL HOURS	AVG. RATE	LABOR $'s	
	4	2	8	$26.60	$200	
NO. OF WKRS. TESTED	TESTING DAYS PER YR.	AVG. NO. OF TESTS PER DAY	CHANCE/ DAY FOR TEST	NO. OF WKRS. FOR THIS ESTIMATE	CHANCES /DAY FOR TEST FOR PROJECT	CONSTR WORKING DAYS
2340	226	10	0.0042735	25	0.1068	40

		LABOR $'s THRU SAFETY	LABOR $'s	
WORK DELAYS CAUSED BY MONITORING	0.5%	$141,620	$700	
			LABOR $'s	
WORK DELAYS CAUSED BY RAD CHECKING	0.5%	$141,620	$700	

	TOTAL LABOR	TOTAL MAT'L.	GRAND TOTAL
TOTAL HEALTH PHYSICS	$1,600	$100	$1,700

(FORWARD TO ESTIMATE SUMMARY SHEET)

ACTIVITY DURATIONS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #2 CAP, FY06
ESTIMATE NO. C2 -01-05-05-A6
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 16-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLA

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION	Days per Schedule	
						Each Year		
Biointrusion	04-May-01	05-Mar-05	01-Jul-05	27-Oct-05	7.8	MONTHS	169	78.9%
Filter, Veg layer, Veg		28-Oct-05	28-Nov-05	30-Dec-05	2.1	MONTHS	41	21.1%
TOTAL					9.8	MONTHS		
					10.0		210	

	DATE of EST. to MID-POINT ACTIVITY DURATION	
a.	50.0	MONTHS
b.	1273	MONTHS

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION
OPERATIONS					0	MONTHS

DATE of EST. to MID-POINT ACTIVITY DURATION	
0	MONTHS

ACTIVITY DURATION IS USED IN DETERMINING NUMBER of WORKERS for CERCLA/SAT TRAINING HOURS and HEALTH PHYSICS COSTS.

CCPLB

OSDF CELL #3 CAP

PBS: OHFN03
WBS: 1.1.C.D
CTRL ACCT: CCPL
CHARGE NO: CCPLB
COMMENT NO N/A

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

09/07/2001
11:21 AM

DATE: 05-Sep-01
PROJECT MGR: JD Chiou
CAM: JD Chiou
PREPARED BY: W. F. Fick
FISCAL YEAR: 2000-2010

Resource: FIELDSUB **FIELD SUBS**
Res Dept: 949 **Overtime:** **Class:** **EOC:** SUB **SUBCONTRACTORS**

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Units:	0.0	0.0	0.0	0.0	0.0	3,243,566.5	968,373.5	0.0	0.0	0.0
Cum Units:	0.0	0.0	0.0	0.0	0.0	3,243,566.5	4,211,940.0	4,211,940.0	4,211,940.0	4,211,940.0
Yr Total Cost:	0	0	0	0	0	3,720,191	1,142,880	0	0	0
Cum Total Cost:	0	0	0	0	0	3,720,191	4,863,072	4,863,072	4,863,072	4,863,072

GRAND TOTALS:

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Total Cost:	0	0	0	0	0	3,720,191	1,142,880	0	0	0
Cum Total Cost:	0	0	0	0	0	3,720,191	4,863,072	4,863,072	4,863,072	4,863,072

CAM

CONTROL TEAM

S:\EST_FORMS\ccplbabe

INCLUDES ESCALATION COSTS

Fluor Fernald, Inc.

PROJECTS CONTROLS
ESTIMATING SERVICES

CCRLB

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #2, #3, #4, #5, #6, & #7 Caps
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-05-A5 & A6
C2-2001-005-05-B6 & B7
C2-2001-005-05-D7 & D8
C2-2001-005-05-F8 & F9
C2-2001-005-05-H9 & H10
C2-2001-005-05-K9 & K10

BASIS OF ESTIMATE

SUPPORTING DOCUMENTATION:

Verbal Scope	☒	P & ID's	☐	Work Plan	☐
Drawings	☐	Equipment List	☐	Site Walk	☐
Sketches	☐	Specifications	☐	Eng. Mtg.	☒
Flow Diagrams	☐	Written Scope	☒	Estimate	☐

TYPE OF ESTIMATE:

Change Proposal	☐	Government	☐
Plan/Feasibility	☐	Conceptual	☐
Construction	☐	Title I Design	☐
Budget	☒	Independent	☐

BASIS OF ESTIMATE:

These estimates present the baseline cost for construction of the OSDF Cell caps. Each cell comprises two estimates, the earlier FY for the Bio-intrusion Barrier and the latter FY for the Filter, Vegetative Cover, and Vegetation. The included scope is from the Baseline Closure Plan and associated supporting documents. Durations are from the OSDF schedules and are presented in Appendix D. Control and Management is not included in these estimates; it is, however, included in a separate C & M estimate. Both projects are by the sub-contractor. Surveying by a three person sub-contractor crew at $140/hour is included. Both the surveying and project staffing costs are allocated among the various simultaneous OSDF projects per the OSDF documents and chart. Equipment operating costs assume an 85% operations factor unless otherwise indicated.

Fluor Fernald, Inc.
PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #2, #3, #4, #5, #6, & #7 Caps
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-05-A5 & A6
C2-2001-005-05-B6 & B7
C2-2001-005-05-D7 & D8
C2-2001-005-05-F8 & F9
C2-2001-005-05-H9 & H10
C2-2001-005-05-K9 & K10

Fluor Fernald purchases geo-synthetics (GML, Geotextile, etc.). Deployment of the geo-synthetics is by the sub-contractor. Welding and sewing is by a specialty contractor.

Fluor Fernald, Inc.
PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #2, #3, #4, #5, #6, & #7 Caps
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-05-A5 & A6
C2-2001-005-05-B6 & B7
C2-2001-005-05-D7 & D8
C2-2001-005-05-F8 & F9
C2-2001-005-05-H9 & H10
C2-2001-005-05-K9 & K10

ESTIMATE ASSUMPTIONS

EXECUTION:

- ☒ This project is to be performed on a 50-hour week, 10 hours a day.
- ☐ This project is to be performed on a 40-hour week, 8 hours a day.
- ☒ Premium time allowed.

WAGE RATES:

- ☒ Wage rates within this estimate are based on Project Labor Agreement rates, effective October 2000 and are considered FY01 dollars for estimating.
- ☐ Wage rates within this estimate are based on FF Support Contractor FSC 645 wage rates, effective January 30, 2001 and are considered FY01 dollars for estimating.
- ☐ Wage rates within this estimate are based on FF FTE Planning Labor Rates FY01.

ENGINEERING:

- ☒ N/A
- ☐ Engineering dollars provided by the Project Engineer.
- ☐ Engineering dollars have been factored in at the standard 12% of the total direct and indirect field costs as per request of Project Engineer.

CONSTRUCTION MANAGEMENT:

- ☐ N/A
- ☒ Construction Management staffing by discipline has been included.
- ☐ Construction Management dollars have been factored in at the standard 30% of the total direct and indirect field costs as per request of Project Engineer.

PROJECT MANAGEMENT:

- ☒ N/A

Fluor Fernald, Inc.
PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #2, #3, #4, #5, #6, & #7 Caps
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-05-A5 & A6
C2-2001-005-05-B6 & B7
C2-2001-005-05-D7 & D8
C2-2001-005-05-F8 & F9
C2-2001-005-05-H9 & H10
C2-2001-005-05-K9 & K10

☐ Project Management dollars provided by the Project Engineer.
☐ Project Management dollars have been factored in at the standard 30% of the total direct and indirect field costs as per request of Project Engineer.

WASTE PROGRAM MANAGEMENT:
☒ N/A
☐ Waste Program Management dollars provided by the Project Engineer.

PRODUCTIVITY:
A productivity factor has been developed and applied to the unit man-hours derived from MEANS, Richardson, NECA, and or any other published estimating source. See attachment APPENDIX "A" and APPENDIX "B".

ESCALATION:
Escalation costs are excluded from the target estimate. The escalation costs are calculated within the Micro-Frame computer system according to the plan for rebaselining.

UNIT RATES:
Unit man-hours and material dollars are based on Richardson, MEANS, NECA, National Constructor, historical data at Fernald, and or other published rates. Some man-hours and equipment requirements are provided by engineering and CM. Equipment rental rates and hourly operating costs are from the Blue Book Volume 1.

G & A (HO EXPENSE):
G & A are excluded from the target estimate. The G & A cost are calculated within the Micro-Frame computer system according to the plan for rebaselining.

Fluor Fernald, Inc.
PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #2, #3, #4, #5, #6, & #7 Caps
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-05-A5 & A6
C2-2001-005-05-B6 & B7
C2-2001-005-05-D7 & D8
C2-2001-005-05-F8 & F9
C2-2001-005-05-H9 & H10
C2-2001-005-05-K9 & K10

HEALTH PHYSICS:
See attached APPENDIX "C".

RISK BUDGET:
N/A

CONTINGENCY:
N/A

Fluor Fernald, Inc.

PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #2, #3, #4, #5, #6, & #7 Caps
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-05-A5 & A6
C2-2001-005-05-B6 & B7
C2-2001-005-05-D7 & D8
C2-2001-005-05-F8 & F9
C2-2001-005-05-H9 & H10
C2-2001-005-05-K9 & K10

ESTIMATE INCLUSIONS & EXCLUSIONS

INCLUSIONS:

- Mobilization.
- Demobilization.
- Labor hours.
- Material dollars.
- Equipment rental.
- Equipment operating.
- Contractor staffing.
- Geosynthetics purchase by FF.

EXCLUSIONS:

- Permits and fees.
- FF G & A (Home Office Expense).
- Escalation due to volatile petroleum costs.
- Any second tier subcontract costs.
- Project Management dollars.
- Waste Management dollars.
- Control & Management
- Landlord costs.

ESTIMATE SUMMARY SHEET

FLUOR FERNALD

PROJECT:	Baseline OSDF CELL #3 CAP, FY06	DATE:	16-May-01
ESTIMATE #:	C2-01-05-05-B6	ESTIMATOR:	RIS
CLIENT:	DOE	LOCATION:	FERNALD
WBS #:	1.1.C.D	TASK NO.:	CCPLB

ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	EQUIP. $	TOTAL $
Insurance & Bond				$111,310			$111,310
Submittals	2,563		$94,710		$200		$94,910
Overhead and Profit				$558,092			$558,092
Off Hours Dust Control				$20,000			$20,000
Mobilization	644		$15,340	$25,430	$71,800	$13,370	$125,940
Site Preparation	708		$16,800		$18,040	$29,980	$64,820
Contouring Layer	1,535		$35,800	$15,000		$103,350	$154,150
Clay Cap	3,695		$87,330	$5,000		$135,580	$227,910
Geosynthetics Purchase by FF					$314,460		$314,460
Install Geosynthetics	1,150		$27,610	$87,500		$20,700	$135,810
Leak Detection Testing	150		$3,600	$18,600		$1,260	$23,460
Cover Drainage Layer	1,361		$32,170		$288,000	$49,980	$370,150
Biointrusion Barrier	2,901		$68,560		$654,000	$109,250	$831,810
Survey				$52,800			$52,800
Project Staffing	2,477		$82,240				$82,240
DIRECT FIELD COSTS TOTAL	**17,184**	**$27.01**	**$464,160**	**$893,732**	**$1,346,500**	**$463,470**	**$3,167,862**
SUPERVISION - CONTRACTOR							
SMALL TOOLS & CONSUMABLES	-	-	-		$5,500		$5,500
MISC. EQUIP. RENTAL	-	-	-			$21,900	$21,900
TEMPORARY FACILITIES incl w/Mobilization							
TEMPORARY UTILITY HOOK-UP incl w/Mobilzation							
JOB CLEAN-UP incl w/Job Close-out							
PER DIEM / SUBSISTANCE	-	-	-				
HEALTH PHYSICS S/C incl w/Submittals							
CERCLA - TRAINING incl w/Submittals							
GET/SITE ACCESS & JOB SPECIFIC TRAINING w/su							
PAYROLL BURDENS & BENEFITS	-	-	$264,600				$264,600
OVERHEAD & PROFIT	-	-	-				
BOND	-	-	-				
SALES TAX	-	-	-		$81,100	$29,100	$110,200
INDIRECT FIELD COSTS TOTAL			**$264,600**		**$86,600**	**$51,000**	**$402,200**
DIRECT & INDIRECT FIELD COSTS TOTAL	**17,184**	**$42.41**	**$728,760**	**$893,732**	**$1,433,100**	**$514,470**	**$3,570,062**
TARGET ESTIMATE			**(FY 01 DOLLARS)**				**$3,570,100**

ESTIMATE PERFORMED BY ESTIMATING SERVICES

ESTIMATE SUMMARY SHEET

PROJECT: Baseline OSDF CELL #3 CAP, FY06 — DATE: 16-May-01

ESTIMATE NO. C2-01-05-05-B6 — ESTIMATOR: RIS

CLIENT: DOE — LOCATION: FERNALD

WBS NO.: 1.1.C.D — TASK NO.: CCPLB

FACTORS

FIXED PRICE $	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
DFC DOLLARS	$464,160	$893,732	$1,346,500	$463,470		$3,167,862
IFC COST FACTOR	1.5701	–	1.0041	1.0473	–	
BOND + OVERHEAD & PROFIT COST FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	
SALES TAX	-	-	1.0600	1.0600	1.0600	
DIRECT FIELD COST FACTOR =	**1.5701**	**1.0000**	**1.0643**	**1.1101**	**1.0600**	
BASE ESTIMATE $'S	$728,760	$893,732	$1,433,120	$514,492		$3,570,104
BASE FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	
TARGET ESTIMATE FACTOR	**1.5701**	**1.0000**	**1.0643**	**1.1101**	**1.0600**	
FPS TARGET ESTIMATE (FY00 $)	$728,760	$893,732	$1,433,120	$514,492		$3,570,104

NOTE:

IF THERE ARE NO DFC EQUIP. $, ENTER THE IFC EQUIP. $'S INTO THE DIRECT FIELD COST TOTAL AND DELETE IFC FACTOR IN G65.

ESTIMATE SUMMARY SHEET

PROJECT: Baseline OSDF CELL #3 CAP, FY06 — **DATE:** 16-May-01

ESTIMATE NO. C2-01-05-05-B6 — **ESTIMATOR:** RIS

CLIENT: DOE — **LOCATION:** FERNALD

WBS NO.: 1.1.C.D — **TASK NO.:** CCPLB

DIRECT FIELD COST W/FACTORS

PAY ITEM NO.	DESCRIPTION	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
		(ASSIGN OR PRORATE PPE MAT'L.$'S)-->>					
	Insurance & Bond		111310				
			$111,310				$111,310
	Submittals	94710		200			
		$148,700		$210			$148,910
	Overhead and Profit		558092				
			$558,090				$558,090
	Off Hours Dust Control		20000				
			$20,000				$20,000
	Mobilization	15340	25430	71800	13370		
		$24,080	$25,430	$76,420	$14,840		$140,770
	Site Preparation	16800		18040	29980		
		$26,380		$19,200	$33,280		$78,860
	Contouring Layer	35800	15000		103350		
		$56,210	$15,000		$114,730		$185,940
	Clay Cap	87330	5000		135580		
		$137,110	$5,000		$150,510		$292,620
	Geosynthetics Purchase by FF			314460			
				$334,690			$334,690
	Install Geosynthetics	27610	87500		20700		
		$43,350	$87,500		$22,980		$153,830
	Leak Detection Testing	3600	18600		1260		
		$5,650	$18,600		$1,400		$25,650
	Cover Drainage Layer	32170		288000	49980		
		$50,510		$306,530	$55,480		$412,520
	Biointrusion Barrier	68560		654000	109250		
		$107,640		$696,070	$121,280		$924,990
	Survey		52800				
			$52,800				$52,800
	Project Staffing	82240					
		$129,120					$129,120
TOTAL DIRECT FIELD COSTS W/FACTORS		(FY01 DOLLARS)					$3,570,100

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #3 CAP, FY06
ESTIMATE NO.: C2-01-05-05-B6
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 16-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLB

ITEM NO.	SUMMARY	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST / UNIT Labor	COST / UNIT S/C	COST / UNIT Mat'l	COST / UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Insurance & Bond											$111,310			$111,310
	Submittals				2563						$94,710		$200		$94,910
	Overhead and Profit											$558,090			$558,090
	Mobilization				644						$15,340	$25,430	$71,800	$13,370	$125,940
	Site Preparation				708						$16,800		$18,040	$29,980	$64,820
	Survey											$52,800			$52,800
	Contouring Layer				1,535						$35,800	$15,000		$103,350	$154,150
	Clay Cap				3,695						$87,330	$5,000		$135,580	$227,910
	Geosynthetics Purchase by FF												$314,460		$314,460
	Install Geosynthetics				1,150						27,610	87,500		20,700	$135,810
	Leak Detection Testing				150						$3,600	$18,600		$1,260	$23,460
	Cover Drainage Layer				1,361						$32,170		$288,000	$49,980	$370,150
	Biointrusion Barrier				2,901						$68,560		$654,000	$109,250	$831,810
	Off Hours Dust Control											20,000			$20,000
	Project Staffing				2,477						82,240				$82,240
	Subtotal Direct Cost	1	LOT		17184	$27.01					464,160	893,730	1,346,500	463,470	$3,167,860

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #3 CAP, FY06
ESTIMATE NO.: C2-01-05-05-B6
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 16-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLB

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Insurance & Bond							COST							
	Performance bond 1.3%							THRU							
	Insurance 1.5%							OH & P							
	For both FYs Sub-total 2.8%							3348552				$111,310			$111,310
	Submittals														
D	Plans	16	EA	50	800	50.62					$40,500				$40,500
D	Technical submittals	100	EA	5	500	50.62					$25,310				$25,310
D	Site access & GET traing, cnstrct work force	25	EA	18	450	27.01					$10,560				$10,560
D	Site access & GET traing, PM, CM etc	7	EA	18	126	33.21					$2,270				$2,270
D	Site access & GET traing, surveyers & others	4	EA	18	72	75.00					$1,300				$1,300
mD	CERCLA/RAD II training, constrct work force	10	EA	25	250	27.01					$5,870				$5,870
mD	CERCLA/RAD II traing, PM, CM etc	4	EA	25	100						$2,500				$2,500
mD	CERCLA/RAD II traing, surveyers & others	4	EA	25	100	75.00					$2,500				$2,500
D	Health Physics				165	23.64					$3,900		$200		$4,100
	Sub-total				2563						$94,710		$200		$94,910
	Overhead and Profit														
				20%								$558,090			$558,090
D															
D															
D															
D															
D															
D															

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #3 CAP, FY06
ESTIMATE NO.: C2-01-05-05-B6
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 16-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLB

	Mobilization	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	S/C Office Trailer 2 reqd	8	MO					550				$8,430			$8,430
	Heat stress / support trailers 2 reqd	8	MO					350				$5,370			$5,370
D	Trailer set-up & delivery	4	LS					1,300				$5,200			$5,200
	Laydown area:														
D	#304 stone, 6" x 100,000sf	3,056	TON						12.00				$36,700		$36,700
D	10% waste, 1.5 ton/icy	11,111	SY	0.012	155	23.64				0.55	$3,660			$7,120	$10,780
D	Stabilization fabric, 6 oz/sy, (8% wast	12,000	SY	0.002	28	23.64			0.84	0.02	$660		$10,100	$280	$11,040
	Compaction testing 40 hr	1	LOT					1275				$1,280			$1,280
	Equipment fueling area:														
D	#304 stone, 8" x 30,000sf	1,223	TON						12.00				$14,700		$14,700
D	10% waste, 1.5 ton/icy	3,333	SY	0.012	47	23.64				0.55	$1,110			$2,140	$3,250
D	Stabilization fabric, 6 oz/sy, (8% wast	3,600	SY	0.002	8	23.64			0.84	0.02	$190		$3,000	$80	$3,270
	Compaction testing 20 hr	1	LOT					763				$760			$760
	Portable toilets 2 ea	8	MTH					85				$1,300			$1,300
	Potable water, Allow 5jug/mth, $8/jug	8	MTH					12	40			$90	$300		$390
D	Electric Installation Allow	1	WK		100	24.93			1050	75	$2,490		$4,300	$3,750	$10,540
	Telephone installation Allowance	1	LOT					3000				$3,000			$3,000
D	Mobilize contractor equipment	20	EA	3	70	23.64					$1,650				$1,650
D	Construction fence	1000	LF	0.078	91	23.64			$1.05		$2,150		$1,000		$3,150
D	Rad fence	1600	LF	0.078	145	23.64			$1.05		$3,430		$1,700		$5,130
	Mobilization				**644**						**15,340**	**25,430**	**71,800**	**13,370**	**$125,940**

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #3 CAP, FY06
ESTIMATE NO.: C2-01-05-05-B6
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 16-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLB

ITEM NO.	Site Preparation	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Access Corridor/Service Road														
D	a. Excavation	600	CY	0.023	16	23.64				1.42	$380			$850	$1,230
D	b. Fill	600	CY	0.017	12	23.64				0.74	$280			$440	$720
D	c. Grading	2500	SY	0.005	15	23.64				0.13	$350			$330	$680
D	d. Crushed rock, 6" thk	500	TON	0.049	29	23.64			12	1.25	$690		$6,000	$630	$7,320
D	e. Geotextile Fabric	9000	SF	0.00022	2	23.64			0.08	0.002	$50		$720	$20	$790
	Sub-total				72						$1,750		$6,720	$2,270	$10,740
	General Grading for Cap														
D	a. Excavation inc non-impctd part of haul rd	6200	CY	0.023	166	23.64				1.42	$3,920			$8,800	$12,720
D	b. Fill	2000	CY	0.017	40	23.64				0.74	$950			$1,480	$2,430
D	c. Grading	14500	SY	0.005	84	23.64				0.13	$1,990			$14,820	$16,810
	Sub-total				290						$6,860			$25,100	$31,960
D															
D															
D															
	Sub-total														
	Surface Drainage														
D	Earthwork-Trench excavation for culvert 127	141	BCY	0.053	9	23.64				1.38	$210			$230	$440
D	Pipe embedment fill, sand 27	43	TON	0.048	2	23.64			6	0.83	$60		$260	$40	$360
D	CMP culvert, 30", borrow area haul road	66	LF	0.43	33	23.64			21	0.47	$780		$1,680	$40	$2,500
D	RCP culvert, 30"class 4, contractor access road	53	LF	0.64	39	23.64			34	7.15	$920		$2,040	$440	$3,400
D	RCP culvert, 18"	50	LF	0.18	11	23.64			17	0.93	$260		$1,020	$50	$1,330
D	Rip Rap type D 249	340	TON	0.027	11	23.64			15.50	1.23	$260		$5,270	$490	$6,020
D	Silt fence	3500	LF	0.017	69	23.64			0.30		$1,630		$1,050		$2,680
	Sub-total				174						$4,120		$11,320	$1,290	$16,730
D	Dewater, 30% of duration	49	DAYS	3	172	23.64				23	$4,070			$1,320	$5,390
D															
D															
D															
	Site Preparation				708						$16,800		18040	29980	$64,820

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #3 CAP, FY06
ESTIMATE NO.: C2-01-05-05-B6
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 16-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLB

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Off Hours Dust Control Allow $40,000 per year split between cell cap & cell liner	0.5	LOT					40,000				$20,000			$20,000
D	Survey 7.7 mth							140				$52,800			$52,800
	Subtotal Direct Cost	1	LOT									$72,800			$72,800

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #3 CAP, FY06
ESTIMATE NO.: C2-01-05-05-B6
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 16-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLB

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Contouring Layer														
D	Remove 2 rows silt fence fr impacted layer	1	DAY	30	30	24.11				203.19	$720			$200	$920
D	Prepare eroded select impacted layer:	900	CY	0.045	42	23.64				2.29	$990			$2,060	$3,050
	(Grading & compacting)														
D	2 operators	5	DAY	20	100	27.03					$2,700				$2,700
D	2 laborer	5	DAY	20	100	22.65					$2,260				$2,260
	Dozer, D6 5 day -	0.23	MTH							7040				$1,620	$1,620
	Smooth drum roller, Cat 563 5 day -	0.23	MTH							4335				$1,000	$1,000
	Dozer, D6 @85%		HR	43						21.87				$930	$930
	Smooth drum roller, Cat 563 @85%		HR	43						15.48				$660	$660
D	Contouring layer, excav/haul fr s stkpl area	13000	CY	0.040	605	23.64				3.49	$14,300			$45,380	$59,680
D	Construct access ramp (fill) per CM														
D	3 operators	2	DAY	30	60	27.03					$1,620				$1,620
D	1 laborer	2	DAY	10	20	22.65					$450				$450
D	3 teamsters	1	DAY	30	30	22.86									
	Dozer, D6 2 day -	0.09	MTH							7040				$650	$650
	Sheepsfoot roller, Cat 825 2 day -	0.09	MTH							13390				$1,240	$1,240
	Truck, Volvo A30, 6 reqd 2 day -	0.09	MTH							7905				$4,380	$4,380
	Dozer, D6 @85%		HR	17						21.87				$2,230	$2,230
	Sheepsfoot roller, Cat 825 @ 85%		HR	17						41.55				$4,240	$4,240
	Truck, Volvo A30, 6 reqd @ 85%		HR	102						27.12				$16,600	$16,600
D	Place contouring layer	10500	CY	0.0331	348	23.64				2.11	$8,230			$22,160	$30,390
D	Rock picking, 2 laborers	10	DAY	20	200	22.65					$4,530				$4,530
D	Storm water management allowance	1	LOT					15000				$15,000			$15,000
	Contouring Layer	**1**	**LOT**		**1,535**	**$23.32**					**35,800**	**15,000**		**103,350**	**$154,150**

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #3 CAP, FY06
ESTIMATE NO.: C2-01-05-05-B6
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 16-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLB

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Clay Cap														
D	Excavate clay from stockpile & load trck 28000	24839	BCY	0.017	499	23.64				0.94	$11,790			$27,300	$39,090
D	Haul from stockpile, 1.5 mile RT	24839	BCY	0.033	941	23.64				2.22	$22,240			$64,270	$86,510
D	Clay, spread w/5 cy loader	24839	BCY	0.01	289	23.64				0.83	$6,830			$24,030	$30,860
D	Clay cap, compact (Cat 815)	24839	BCY	0.040	1166	23.64				0.69	$27,560			$19,980	$47,540
D	Rock picking requires 2 laborers	8	WK	100	800	23.64					$18,910				$18,910
	Borrow area road maintenance	1	LOT					5000				$5,000			$5,000
	Clay Cap	**1**	**LOT**		**3,695**	**$23.63**					**87,330**	**5,000**		**135,580**	**$227,910**

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #3 CAP, FY06
ESTIMATE NO.: C2-01-05-05-B6
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 16-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLB

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Geosynthetics Purchase by FF														
	Geomembrane, 60 mil textured (GML)	410000	SF					0.25				$102,500			$102,500
	Geomembrane, 60 mil smooth (GML)	4000	SF					0.60				$2,400			$2,400
	Geosynthetic clay cap (GCL)	410000	SF					0.40				$164,000			$164,000
	Geotextile cushion 8 oz	430000	SF					0.08				$34,400			$34,400
	Geotextile cushion 16 oz	73000	SF					0.12				$8,760			$8,760
	Welding rod	100	BOX					24.00				$2,400			$2,400
	Bentonite		BAG												
	Sub-total											$314,460			$314,460
	Install Geosynthetics														
	Receive & store, 8 days over 1 mth w/	1	LOT												
	Cat TH83 forklift	1	MTH							3765				$3,770	$3,770
D	1 operator	8	DAYS	10	80	27.03					$2,160				$2,160
D	2 laborers	8	DAYS	20	160	22.65					$3,620				$3,620
	Cat TH83 forklift oper cost @ 85%	68	HR							12.45				$850	$850
	Placement of GCL & GML incl bentonit	17	DAYS												
	Cat TH83 forklift	0.8	MTH							3765				$2,950	$2,950
	Positrac (priced as Cat 246)	0.8	MTH							2165				$1,700	$1,700
	Cat 563 smooth drum roller	0.8	MTH							4335				$3,400	$3,400
D	1 operator	17	DAYS	10	170	24.60					$4,180				$4,180
D	2 laborers	17	DAYS	20	340	23.75					$8,070				$8,070
	NOTE: Operating factor at 85%														
	Cat TH83 forklift	145	HR							12.45				$1,800	$1,800
	Positrac (priced as Cat 246)	145	HR							7.25				$1,050	$1,050
	Cat 563 smooth drum roller	145	HR							15.48				$2,610	$2,610
	Install by S/C	350000	SF					0.25				$87,500			$87,500
	Placement of Geotex	5	DAYS												
	Cat TH83 forklift	0.23	MTH							3765				$1,010	$1,010
	Positrac (priced as Cat 246)	0.23	MTH							2165				$580	$580
D	2 operators	5	DAYS	20	100	24.60					$2,460				$2,460
D	6 laborers	5	DAYS	60	300	23.75					$7,120				$7,120
	Cat TH83 forklift oper @ 85%	43	HR							12.45				$620	$620
	Positrac (priced as Cat 246) oper @	43	HR							7.25				$360	$360
	Install Geosynthetics	**1**	**LOT**		**1,150**						**27,610**	**87,500**		**20,700**	**$135,810**

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #3 CAP, FY06
ESTIMATE NO.: C2-01-05-05-B6
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 16-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLB

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Leak Detection Testing														
	Leak Detection Testing	1	LOT					18600				$18,600			$18,600
	Water Management														
D	1 operator	5	DAYS	10	50	24.60					$1,230				$1,230
D	2 laborers	5	DAYS	20	100	23.75					$2,370				$2,370
	Positrac (priced as Cat 246)	0.23	MTH							2165				$500	$500
	2" pump, gas w/50ft ea suction & disch hose	0.23	MTH							441				$120	$120
	Positrac operating @ 85% factor	43	HR							12.45				$620	$620
	Pump operating @ 50% factor	25	HR							0.80				$20	$20
	Sub-total				150						$3,600	$18,600		$1,260	$23,460
	Cover Drainage Layer														
D	Drainage layer, #78 stone, 1" thk, 1pass cmpct	24,000	TON	0.049	1361	23.64			12	1.79	$32,170		$288,000	$49,980	$370,150
	Biointrusion Barrier														
D	Rip Rap type D	50,000	TON	0.046	2661	23.64			12	1.72	$62,890		$600,000	$100,230	$763,120
D	Choke stone, #1 coarse aggregate	4,500	TON	0.046	240	23.64			12	1.72	$5,670		$54,000	$9,020	$68,690
	Sub-total				2901						$68,560		$654,000	$109,250	$831,810
	Subtotal Direct Cost	1	LOT		7,463	$23.65					176,490	37,200	1,596,000	271,000	$2,080,690

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #3 CAP, FY06
ESTIMATE NO.: C2-01-05-05-B6
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 16-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLB

ITEM NO.			QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Project Staffing		Shared percent													
D	Project Manager	7.7 mth	20%	hr	1	187	54.42					$10,170				$10,170
D	General Superintendent	7.7 mth	20%	hr	1	187	37.85					$7,070				$7,070
D	Superintendent	7.7 mth	25%	hr	2	584	32.99					$19,270				$19,270
D	Project Engineer	7.7 mth	30%	hr	1	350	33.19					$11,630				$11,630
D	Quality Engineer	7.7 mth	25%	hr	2	584	28.05					$16,380				$16,380
D	Safety Engineer	7.7 mth	25%	hr	2	584	30.34					$17,720				$17,720
D	Office Administration	in overhead					19.31									
D	Contract Administration/ Schedu	in overhead					25.58									
D	Clerical	in overhead					14.58									
	TOTAL					2,477	33.21					$82,240				$82,240

APPENDIX " A"

PROJECT: Baseline OSDF CELL #3 CAP, FY06
ESTIMATE NC C2-01-05-05-B6
CLIENT: DOE
WBS NO.: 1.1.C.D

SITE SPECIFIC

EFFICIENCY / MULTIPLIER ANALYSIS

DATE: 16-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLB

PERCENT OF INFLUENCE ON CHART MANHOURS

	40%	50%	60%	70%	80%	90%	100%	105%	110%	% OF NFLUENCE	WT'D VALUE	PROD. RESULT
CRAFT SKILL (NOTE 1)	POOR			FAIR			STD	V.GOOD	EXCELLENT	90.0%	12.0%	0.108
CRAFT AVAIL.(NOTE 1)		POOR		FAIR			STD			100.0%	8.0%	0.08
CLIMATE (NOTE 2)	SEVERE	ICE/SNOW			RAIN		+40 TO +85			80.0%	20.0%	0.16
PLANT ELEVATION		OVER 10,000FT			5,000' TO 10,000 FT		UNDER 5,000 FT			100.0%	5.0%	0.05
WORK SPACE				200 SF	250 SF	300 SF	350 SF			100.0%	10.0%	0.1
	<---- MULTIPLE SHIFTS-											
WORK WEEK						5-10s per Means R010-110				85.0%	15.0%	0.1275
60 HOUR WORK WEEK	//////////	//////////	//////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS				0.0%	0.0%	0
	//// MULTIPLE-SHIFT ////////											
60 HOUR WORK WEEK	//////////	//////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS					0.0%	0.0%	0
	//////////	//////////										
SHIFTWORK							OR					
2ND SHIFT					2ND SHIFT		ONE SHIFT			100.0%	3.0%	0.03
3RD SHIFT			3RD SHIFT				ONLY			100.0%	5.0%	0.05
PROJECT SIZE					400M MH AND UP	300M TO 400M MH	200M TO 300M MH	200M MH OR LESS		105.0%	4.0%	0.042
PLANT TYPE				REVAMP ONLY	REVAMP & NEW	NEW IN EXIST PLT	GRASS ROOTS			95.0%	8.0%	0.076
AREA/UNION INFLUENCE	STRONG		MILD		SOME		NONE			80.0%	10.0%	0.08
											100.0%	90.4%

NOTES.....
1. TURNOVER HAS BEEN CONSIDERED
2. FOR EXTERIOR WORK ONLY

EFFICIENCY (AS A % OFF CHART MANHOURS) 90.4%

MULTIPLIER - (TO BE APPLIED TO CHART M.H.'S TO OBTAIN SITE M.H.'S) 1.11

EFFICIENCY FACTORS

PROJECT: Baseline OSDF CELL #3 CAP, FY06
ESTIMATE NO. C2-01-05-05-B6
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 16-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLB

EXAMPLE:

STANDARD CHART MANHOURS =	NET	100
EFFICIENCY FACTORS:		
* SITE SPECIFIC (SEE APPENDIX A)	[redacted]	11.0
S/T = BASE UNIT MANHOURS		111
OVERTIME PRODUCTIVITY FACTOR	0.00%	0
(SEE DETAIL WORKSHEET BACK-UP)		111
* TASK SPECIFIC (confined space, high elevation, congestion, etc.)	0.0%	0
		111
* PPE SPECIFIC (Based on current data and estimating knowledge)		

	PPE LEVEL									
	D		Mod.'D'		Mod. "C"		C		C+	
PRODUCTIVITY HOURS		MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's
(AS A %) / ADD MH's	5.00%	6	27.00%	30	64.00%	71	72.00%	80	96.00%	107
(AS A MULTIPLIER)/TOTAL HRS	1.05	116.6	1.27	141	1.64	182	1.72	190.9	1.96	217.6
TOTAL MULTIPLIER w/SITE PROD.	1.1655		1.4097		1.8204		1.9092		2.1756	

NOTE : Use the Default Productivity Factor of 'mC' for working in a contaminated area if the Safety Level cannot be determined.

(SEE FD FERNALD ESTIMATING SERVICES REFERENCE MANUAL IM-6006 8.10)

Total hours worked in a specific PPE level divided by 10 hour working days = (PPE) ManDays to determine material cost of PPE's.
(SEE APPENDIX C - HEALTH PHYSICS)

12.0	Man Days	14.0	Man Days	18.0	Man Days	19.0	Man Days	22.0	Man Days

THESE EFFICIENCY FACTORS WERE APPLIED INDIVIDUALLY THROUGHOUT THE ESTIMATE AT A TASK SPECIFIC LEVEL, TO OBTAIN A MORE ACCURATE ACCOUNT OF OVERALL EFFICIENCY IMPACT DUE TO PPE REQUIREMENTS IN HANDLING CONTAMINATED AND HAZARDOUS WASTE.

EFFICIENCY FACTORS

PROJECT: Baseline OSDF CELL #3 CAP, FY06
ESTIMATE NO. C2-01-05-05-B6
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 16-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLB

PPE MULTIPLIER DEVELOPEMENT

		D	mD	mC	C	C+
CREW SIZE & MAKE-UP	STANDARD	7	7	7	7	7
	WORKER-BUDDY	0	0	0	0	0
	SUPPORT TEAM	0	0	0	0	0
	TOTAL CREW	7	7	7	7	7
CREW SIZE RATIO		1.00	1.00	1.00	1.00	1.00
AVAILABLE WORK TIME FACTOR		0.95	0.79	0.71	0.71	0.68
PPE LABOR PRODUCTIVITY FACTOR		1	1	0.86	0.82	0.75
NET PRODUCTIVITY RATIO		0.95	0.79	0.611	0.582	0.51
NET PRODUCTIVITY MULTIPLIER		**1.05**	**1.27**	**1.64**	**1.72**	**1.96**

These factors were based on Tables 6.1 and 6.2, Moderate Work Efforts, 66F to 85F temperature of 'Hazardous Waste Cost Control' by R.A.Selg.
Modifications were made to reflect a 10 hour work day and no buddy system or support team for levels D, mC and C.
The worker-buddy and support team members, if required, may be covered under Construction Mgmt. (Rad Techs).

AVAILABLE WORK TIME FACTOR		D	mD	mC	C	C+
TOTAL WORK MINUTES per [5 - 10's		600	600	600	600	600
ADDITN'L SITE SAFETY MEETINGS NOT INCLD. IN BAS	QUANTITY	1	1	1	1	1
	MINUTES	25	25	25	25	25
TOTAL		25	25	25	25	25
PPE DON & DOFFING	QUANTITY	0	0	3	3	3
(ADJUST LEVEL D per WORK PLAN)	MINUTES	0	0	15	15	20
TOTAL			0	45	45	60
WORK BREAKS	QUANTITY	N/A	2	2	2	2
(ADJUST LEVEL D per WORK PLAN)	MINUTES	N/A	15	15	15	15
TOTAL			30	30	30	30
MOBILIZATION - ROUND TRIPS	QUANTITY	N/A	4	4	4	4
(ADJUST LEVEL D per WORK PLAN)	MINUTES	N/A	15	15	15	15
TOTAL			60	60	60	60
COOLDOWNS PER DAY	QUANTITY	2	3	4	4	4
** (2 OUT OF 8 MONTHS) 25.00%	MINUTES	10	12	15	15	15
TOTAL		5	9	15	15	15
AIR TANK REPLACEMENT	QUANTITY	N/A	N/A	N/A	N/A	N/A
	MINUTES	N/A	N/A	N/A	N/A	N/A
TOTAL						
AVAILABLE WORK TIME		570	476	425	425	410
AVAILABLE WORK TIME FACTOR		**0.95**	**0.79**	**0.71**	**0.71**	**0.68**

NOTE: Adjust 'Work Minutes per Day' basis to: 5 - 8's, or leave as 4 - 10's. Any other circumstances, over-ride the minutes per day.

** Assumption based on work performed in May, June, July & August, pro-rating cost over one year. Adjust % to individual circumstances. Changed to July & August over an 8 mth period.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: Baseline OSDF CELL #3 CAP, FY06
ESTIMATE NO. C2-01-05-05-B6
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 16-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLB

PPE"s - PERSONAL PROTECTIVE EQUIPMENT

DESCRIPTION	UNIT	UNIT COST	* NO. OF CHANGE OUTS PER WORKER PER DAY				
			Man Days (TOTAL HOURS worked in PPE's Div. by WORK HOURS / DAY)				
PPE LEVEL C / C+ / B : F/HF MASK w/RESP.&CART.			*	MAN DAYS	MAT'L.$'s	PPE LEVEL	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	(DOUBLE PPE)
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	C / C+	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	C / C+	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	C / C+	
APR CARTRIDGES - DISPOSABLE	PR	$6.98	3	0	$0	C / C+	
SUB-TOTAL		$17.42	3		$0		
				$/MD =	$0.00		
PPE LEVEL mC : FULL DRESS w/ FACE SHIELD				MAN DAYS	MAT'L.$'s	PPE LEVEL	
LT.WT. DISPOSABLE COVERALLS W/HOOD & BOOTIE	PR	$4.46	3	0	$0	mC	
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	mC	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	mC	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	mC	
SUB-TOTAL		$5.98	3		$0		
				$/MD =	$0.00		
SUBCONTRACTOR REQUIRED PURCHASES			QTY. PER WKR.	NO. OF WORKERS	MAT'L.$'s	PPE LEVEL	
RUBBER BOOT COVERS-(1)PR.PER WORKER	PR	$12.70	2	8	$203	D/C/B	
APR w/HALF FACE MASK - (1) PER WORKER	EA	$22.30	6	0	$0	C	
APR w/FULL FACE MASK - (1) PER WORKER	EA	$174.00	6	0	$0	C	
SCBA	EA	$1,894.00	2	0	$0	B	
COOL VESTS	EA	$137.50	6	0	$0	C/B	
THERMO STRIPS	EA	$50.00	6	0	$0	C/B	
SUB-TOTAL					$200		

TOTAL PPE's = MAT'L.$'s $200

(FORWARD TO PAGE 2 OF 2)

OTHER PPE's SUCH AS HARD HAT, SAFETY GLASSES/GOGGLES, STEEL TOED SAFETY SHOES, HEARING PROTECTION, ARE CONSIDERED THE SUBCONTRACTORS RESPONSIBILITY AND ARE COVERED IN HIS OVERHEAD EXPENSE.
COSTS OF FD FERNALD SUPPLIED PPE's, SUCH AS COTTON COVERALLS, EXCHANGE OF RUBBER BOOT COVERS AND RESPIRATORS FOR CHANGEOUTS AND CLEANING OF SAME IS INCURRED BY FD FERNALD AND COSTS ARE NOT INCLUDED AS PART OF PROJECT COSTS AT THIS TIME.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: Baseline OSDF CELL #3 CAP, FY06
ESTIMATE NO. C2-01-05-05-B6
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 16-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLB

--MEDICAL MONITORING --

MEDICAL - PHYSICAL and IN-VIVO MONITORING - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION PHYSICAL (3hrs), IN-VIVO (1hr)	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $	
BASELINE PHYSICALS	1	4	0	0	$27.01	$0	
ANNUAL PHYSICALS	0	4	0	0	$27.01	$0	
EXIT (TERMINATION) PHYSICALS (IN-VIVO)	1	1	0	0	$27.01	$0	
SUB-TOTAL						$0	

RADIATION IN-VITRO SURVEILLANCE - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $	
BI-MONTHLY BIOASSAY	6	1	0	0	$27.01	$0	
SUB-TOTAL						$0	

RANDOM DRUG TESTING

	TESTS	HRS	TOTAL HOURS	AVG. RATE	LABOR $'s	
	15	2	30	$27.01	$800	
NO. OF WKRS. TESTED	TESTING DAYS PER YR.	AVG. NO. OF TESTS PER DAY	CHANCE/ DAY FOR TEST	NO. OF WKRS. FOR THIS ESTIMATE	CHANCES /DAY FOR TEST FOR PROJECT	CONSTR WORKING DAYS
2340	226	10	0.0042735	25	0.1068	145

		LABOR $'s THRU SAFETY	LABOR $'s	
WORK DELAYS CAUSED BY MONITORING	0.5%	$369,450	$1,800	
			LABOR $'s	
WORK DELAYS CAUSED BY RAD CHECKING	0.5%	$369,450	$1,800	

	TOTAL LABOR	TOTAL MAT'L.	GRAND TOTAL
TOTAL HEALTH PHYSICS	$4,400	$200	$4,600

(FORWARD TO ESTIMATE SUMMARY SHEET)

ACTIVITY DURATIONS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #3 CAP, FY06
ESTIMATE NO.: C2-01-05-05-B6
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLB

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION	Days per Schedule	
						Each Year		
Biointrusion	04-May-01	01-Mar-06	25-Jun-06	20-Oct-06	7.7	MONTHS	164	77.7%
Filter, Veg layer, Veg		23-Oct-06	25-Nov-06	29-Dec-06	2.2	MONTHS	45	22.3%
TOTAL					9.9	MONTHS		
					10.0		209	

	DATE of EST. to MID-POINT ACTIVITY DURATION	
a.	61.8	MONTHS
b.	1284	MONTHS

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION
OPERATIONS					0	MONTHS

DATE of EST. to MID-POINT ACTIVITY DURATION	
0	MONTHS

ACTIVITY DURATION IS USED IN DETERMINING NUMBER of WORKERS for CERCLA/SAT TRAINING HOURS and HEALTH PHYSICS COSTS.

CCPLC

OSDF CELL #4 LINER

09/07/2001
11:25 AM

PBS: OHFN03
WBS: 1.1.C.D
CTRL ACCT: CCPL
CHARGE NO: CCPLC
COMMENT NO F03-031

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

DATE:
PROJECT MGR: J. D. Chiou
CAM: J. D. Chiou
PREPARED BY: W. F. Fick
FISCAL YEAR: 2003-2005

Resource: FIELDSUB **FIELD SUBS** **EOC:** **SUBCONTRACTORS**
Res Dept: 949 **Overtime:** **Class:** **SUB**

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Units:	0.0	0.0	0.0	3,106,393.2	708,876.8	0.0	0.0	0.0	0.0	0.0
Cum Units:	0.0	0.0	0.0	3,106,393.2	3,815,270.0	3,815,270.0	3,815,270.0	3,815,270.0	3,815,270.0	3,815,270.0
Yr Total Cost:	0	0	0	3,368,142	790,129	0	0	0	0	0
Cum Total Cost:	0	0	0	3,368,142	4,158,271	4,158,271	4,158,271	4,158,271	4,158,271	4,158,271

Resource: WISE **WISE CONSTRUCTION** **EOC:** **SUBCONTRACTORS**
Res Dept: 949 **Overtime:** **Class:** **SUB**

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Units:	0.0	0.0	77,040.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Units:	0.0	0.0	77,040.0	77,040.0	77,040.0	77,040.0	77,040.0	77,040.0	77,040.0	77,040.0
Yr Total Cost:	0	0	81,256	0	0	0	0	0	0	0
Cum Total Cost:	0	0	81,256	81,256	81,256	81,256	81,256	81,256	81,256	81,256

GRAND TOTALS:

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Total Cost:	0	0	81,256	3,368,142	790,129	0	0	0	0	0
Cum Total Cost:	0	0	81,256	3,449,399	4,239,527	4,239,527	4,239,527	4,239,527	4,239,527	4,239,527

CAM _____ CONTROL TEAM _____

INCLUDES ESCALATION COSTS

CCPLC

Fluor Fernald, Inc.

PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #4 Liner
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-01-C3, C4, & C5

BASIS OF ESTIMATE

SUPPORTING DOCUMENTATION:

Verbal Scope	☒	P & ID's	☐	Work Plan	☐
Drawings	☐	Equipment List	☐	Site Walk	☐
Sketches	☐	Specifications	☐	Eng. Mtg.	☒
Flow Diagrams	☐	Written Scope	☒	Estimate	☐

TYPE OF ESTIMATE:

Change Proposal	☐	Government	☐
Plan/Feasibility	☐	Conceptual	☐
Construction	☐	Title I Design	☐
Budget	☒	Independent	☐

BASIS OF ESTIMATE:

These estimates present the baseline cost for construction of the OSDF Cell #4 liner. These three estimates comprise the Horizontal Monitoring Well FY03, Liner Placement FY04, and Video & Demobilization including close-out FY05. The included scope is from the Baseline Closure Plan and associated supporting documents. Durations are from the OSDF schedules and are presented in Appendix D. Control and Management is not included in these estimates; it is, however, included in a separate C & M estimate. The Horizontal Monitoring Well FY03 is by the support contractor, WISE Services. Submittals, bond and insurance, overhead and profit are not applicable to the support contractor. The other two projects in both FY04 and FY05 are by the sub-contractor. Surveying by a three person sub-contractor crew at $140/hour is included. Both the surveying and project staffing costs are allocated among the various simultaneous OSDF projects per the OSDF documents and chart. Equipment operating costs assume an 85% operations factor unless otherwise indicated. Geo-synthetics (GML, Geotextile, etc.) are purchased by Fluor Fernald. Deployment of the geo-synthetics is by the sub-contractor. Welding and sewing is by a specialty contractor.

Fluor Fernald, Inc.
PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #4 Liner
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-01-C3, C4, & C5

ESTIMATE ASSUMPTIONS

EXECUTION:

- ☒ This project is to be performed on a 50-hour week, 10 hours a day.
- ☐ This project is to be performed on a 40-hour week, 8 hours a day.
- ☒ Premium time allowed.

WAGE RATES:

- ☒ Wage rates within this estimate are based on Project Labor Agreement rates, effective October 2000 and are considered FY01 dollars for estimating. For FY04 and FY05.
- ☒ Wage rates within this estimate are based on FF Support Contractor FSC 645 wage rates, effective January 30, 2001 and are considered FY01 dollars for estimating for FY03 only.
- ☐ Wage rates within this estimate are based on FF FTE Planning Labor Rates FY01.

ENGINEERING:

- ☒ N/A
- ☐ Engineering dollars provided by the Project Engineer.
- ☐ Engineering dollars have been factored in at the standard 12% of the total direct and indirect field costs as per request of Project Engineer.

CONSTRUCTION MANAGEMENT:

- ☐ N/A
- ☒ Construction Management staffing by discipline has been included.
- ☐ Construction Management dollars have been factored in at the standard 30% of the total direct and indirect field costs as per request of Project Engineer.

PROJECT MANAGEMENT:

- ☒ N/A
- ☐ Project Management dollars provided by the Project Engineer.
- ☐ Project Management dollars have been factored in at the standard 30% of the total direct and indirect field costs as per request of Project Engineer.

Fluor Fernald, Inc.
PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #4 Liner
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-01-C3, C4, & C5

WASTE PROGRAM MANAGEMENT:

☒ N/A
☐ Waste Program Management dollars provided by the Project Engineer.

PRODUCTIVITY:

A productivity factor has been developed and applied to the unit man-hours derived from MEANS, Richardson, NECA, and or any other published estimating source. See attachment APPENDIX "A" and APPENDIX "B".

ESCALATION:

Escalation costs are excluded from the target estimate. The escalation costs are calculated within the Micro-Frame computer system according to the plan for rebaselining.

UNIT RATES:

Unit man-hours and material dollars are based on Richardson, MEANS, NECA, National Constructor, historical data at Fernald, and or other published rates. Some man-hours and equipment requirements are provided by engineering and CM. Equipment rental rates and hourly operating costs are from the Blue Book Volume 1.

G & A (HO EXPENSE):

G & A are excluded from the target estimate. The G & A cost are calculated within the Micro-Frame computer system according to the plan for rebaselining.

HEALTH PHYSICS:

See attached APPENDIX "C".

RISK BUDGET:

N/A

CONTINGENCY:

N/A

Fluor Fernald, Inc.

PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #4 Liner
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-01-C3, C4, & C5

ESTIMATE INCLUSIONS & EXCLUSIONS

INCLUSIONS:

- Mobilization.
- Demobilization.
- Labor hours.
- Material dollars.
- Equipment rental.
- Equipment operating.
- Contractor staffing.
- Geosynthetics purchase by FF.

EXCLUSIONS:

- Permits and fees.
- FF G & A (Home Office Expense).
- Escalation due to volatile petroleum costs.
- Any second tier subcontract costs.
- Project Management dollars.
- Waste Management dollars.
- Control & Management
- Landlord costs.

SUPPORT CONTRACTOR ESTIMATE SUMMARY SHEET

PROJECT: Baseline CCPLC Cell4 Liner 03 Wise
ESTIMATE NO.: C2-01-05-01-C3
CLIENT: DOE
WBS NO.: 1.1.C.D

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO: CCPLC

	DESCRIPTION	M/H	AVG. RATE	SPT.CONT. LABOR $	FERNALD S/C / OTHER	MAT'L $	EQUIP $	TOTAL $
	Mobilization	12		$500				
	Horizontal Monitoring Well	755		$29,700		$3,400	$21,800	$25,200
	Survey				$10,300			$10,300
SUPPORT CONT. / FF D. F. COST TOTAL		767	$39.37	$30,200	$10,300	$3,400	$21,800	$35,500
SUPERVISION		146		$6,500				
SMALL TOOLS & CONSUMABLES						$500		$500
MISC. EQUIP.RENTAL							$1,200	$1,200
JOB CLEAN-UP								
SAFETY		10		$400		$200		$200
HEALTH PHYSICS S/C		18		$700		$200		$200
JOB SPECIFIC TRAINING								
SUPPORT CONT. INDIRECT FIELD COST TOTAL		174		$7,600				
SUPPORT CONT. TOTAL BILLABLE COSTS		941	$40.18	$37,800				
TEMPORARY FACILITIES								
TEMPORARY UTILITY HOOK-UP								
FD FERNALD SALES TAX						$300	$1,400	$1,700
FF INDIRECT FIELD COSTS TOTAL						$1,200	$2,600	$3,800
FF DIRECT & INDIRECT FIELD COSTS TOTAL					$10,300	$4,600	$24,400	$39,300
FF and SUPT.CONT. DIRECT & INDIRECT FIELD COST TOTAL				$37,800	$10,300	$4,600	$24,400	$77,100
SUB-TOTAL (BASE ESTIMATE)								$77,100
TARGET ESTIMATE				**(FY 01 DOLLARS)**				$77,100

ESTIMATE PERFORMED E

SUPPORT CONTRACTOR ESTIMATE SUMMARY SHEET

PROJECT: Baseline CCPLC Cell4 Liner 03 Wise

DATE: 17-May-01

ESTIMATE NO.: C2-01-05-01-C3

FACTORS

ESTIMATOR: RIS

CLIENT: DOE

LOCATION: FERNALD

WBS NO.: 1.1.C.D

TASK NO.: CCPLC

	SUPT.CONT	FD FERNALI					PROJECT
	LABOR $	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
DFC DOLLARS	$30,200		$10,300	$3,400	$21,800	$200	$65,900
IFC COST FACTOR	1.2517	1.0000	1	1.2059	1.0550	-	
SALES TAX COST FACTOR	-	-	-	1.0600	1.0600	1.0600	
BOND + OVERHEAD & PROFIT COST FACTOR	N/A	N/A	N/A	N/A	N/A	N/A	
DIRECT FIELD COST FACTOR =	1.2517	1.0000	1.0000	1.2782	1.1183	1.0600	
	-						
DIRECT BASE ESTIMATE $'s	$37,800		$10,300	$4,346	$24,380	$212	$77,038
RISK BUDGET FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
DIRECT TARGET ESTIMATE FACTOR	1.2517	1.0000	1	1.2782	1.1183	1.0600	
DIRECT TARGET ESTIMATE (FY00 DOLLARS)	$37,800		$10,300	$4,346	$24,380	$212	$77,038

NOTE:

1.) If there are no equipment rental costs in the "Directs" (0 $'s in I20) and the default allowance of $3.50 per MH has been used in the "indirects", input the indirect Equip. $'s in H62 and put a dash in H63. This will treat the Equip. $'s as direct cost and apply the sales tax factor. On page 3 below, insert the equipment $'s in any pay items that apply.

SUPPORT CONTRACTOR ESTIMATE SUMMARY SHEET

PROJECT: Baseline CCPLC Cell4 Liner 03 Wise — DATE: 17-May-01

ESTIMATE NO.: C2-01-05-01-C3 — ESTIMATOR: RIS

CLIENT: DOE — LOCATION: FERNALD

WBS NO.: 1.1.C.D — TASK NO.: CCPLC

Direct Field Cost w/FACTORS

PAY ITEM NO.	DESCRIPTION	SUPPORT CONT. LABOR $	FF LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	PROJECT TOTAL $
	PPE						200	200
							$210	$210
	Mobilization	500						500
		$630						$630
	Horizontal Monitoring Well	29,700			3,400	21,800		54,900
		$37,170			$4,350	$24,380		$65,900
	Survey			10,300				10,300
				$10,300				$10,300
SUB-TOTAL - SUPPORT CONTRACTOR		$37,800						$37,800
SUB-TOTAL - FF				$10,300	$4,350	$24,380	$210	$39,240
TOTAL DIRECT FIELD COSTS w/FACTORS								$77,040

NOTE: The above costs exclude any FD Fernald support costs that may appear on page 1 & 2, such as Waste Disposition, Engineering, Project

PROJECT: Baseline CCPLC Cell4 Liner 03 Wise
ESTIMATE NO.: C2-01-05-01-C3
CLIENT: DOE
WBS NO.: 1.1.C.D

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

DIRECT COST SUMMARY	QTY	UNIT	MAN-HOURS			COST / UNIT				LABOR	S/C	MAT'L	EQUIP	TOTAL
			Unit	Total	Rate	Labor	S/C	Mat'l	Equip					
Mobilization				12						$500				$500
Horizontal Monitoring Well				755						$29,700		$3,400	$21,800	$54,900
Survey											$10,300			$10,300
DIRECT COST SUMMARY	1	LOT		767	$39.37					$30,200	$10,300	$3,400	$21,800	$65,700

PROJECT: Baseline CCPLC Cell4 Liner 03 Wise
ESTIMATE NO.: C2-01-05-01-C3
CLIENT: DOE
WBS NO.: 1.1.C.D

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

PPE LEVEL	Mobilization	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Mobilization														
D	Dozer D6	1	ea		3	39.93					$120				$120
D	Smooth drum Roller, Cat 563	1	ea		3	39.93					$120				$120
D	Excavator Cat 330	1	ea		3	39.93					$120				$120
D	Waterwagon Cat 613	1	ea		3	35.21					$110				$110
	Mobilization				12	$41.67					$500				$500

PROJECT: Baseline CCPLC Cell4 Liner 03 Wise
ESTIMATE NO.: C2-01-05-01-C3
CLIENT: DOE
WBS NO.: 1.1.C.D

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

PPE LEVEL	Horizontal Monitoring Well	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST / UNIT Labor	COST / UNIT S/C	COST / UNIT Mat'l	COST / UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Receive HDPE pipe, geotextile, & drainage matl														
D	operator	0.5	DAY	10	5	39.93					$200				$200
D	2 laborer	0.5	DAY	10	10	31.81					$320				$320
	Forklift Cat TH83 1/2 d	0.02	MTH							3,765				$90	$90
	Forklift Cat TH84 @85%		HR	8.5						12.45				$110	$110
	Install HDPE pipe, geotex, & drainage stone														
D	laborer 2 wk	10.0	DAY	10	100	31.81					$3,180				$3,180
D	2 pipefitter 2 wk	10.0	DAY	10	200	41.90					$8,380				$8,380
D	1 operator 4 wk	20.0	DAY	10	200	39.93					$7,990				$7,990
D	2 operator 2 wk	10.0	DAY	10	200	39.93					$7,990				$7,990
	Excavator Cat 330 2 wk	0.46	MTH							11,490				$5,300	$5,300
	Dozer Cat D6 4 wk	0.92	MTH							7,040				$6,500	$6,500
	Smooth drum roller Cat 2 wk	0.46	MTH							4,335				$2,000	$2,000
	Excavator Cat 330 @85%	85	HR							32.15				$2,730	$2,730
	Dozer, D6 @85%	170	HR							21.87				$3,720	$3,720
	Smooth drum roller Cat 563	85	HR							15.48				$1,320	$1,320
	Tie-in HDPE pipe to stub-outs fr valve house														
D	2 pipefitter	2.0	DAY	10	40	41.90					$1,680				$1,680
	Well casing	1	EA						100				$100		$100
	Gravel	60	TON						13				$780		$780
	Geotextile cushion, 7 oz	1,600	SF						0.06				$100		$100
	Pipe, 6" HDPE	160	LF						2.87				$460		$460
	Pipe, 6" HDPE, perf	80	LF						3.17				$250		$250
	Pipe, 10" HDPE	160	LF						7.69				$1,230		$1,230
	Tee, 6" HDPE	1	EA						66.75				$70		$70
	Tee, 6" 90 el	2	EA						56.10				$110		$110
	Bentonite	3	BAG						5.00				$20		$20
	12" Concrete riser pipe	20	LF						8				$150		$150
	12" PVC ri: 20LF & 1 el	1	LOT						166				$170		$170
	Horizontal Monitoring Well				755	$39.34					$29,700		$3,400	$21,800	$54,900

PROJECT: Baseline CCPLC Cell4 Liner 03 Wise
ESTIMATE NO.: C2-01-05-01-C3
CLIENT: DOE
WBS NO.: 1.1.C.D

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

PPE LEVEL	Survey	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST / UNIT Labor	COST / UNIT S/C	COST / UNIT Mat'l	COST / UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
D	Survey 1.5 mth							68,000				$10,290			$10,290
	Survey	1	LOT									$10,300			$10,300

SUPPORT CONTRACTOR - Stated in FY01 DOLLARS

APPENDIX "A"

PROJECT: Baseline CCPLC Cell4 Liner 03 Wise
ESTIMATE NO C2-01-05-01-C3
CLIENT: DOE
WBS NO.: 1.1.C.D

SITE SPECIFIC

EFFICIENCY / MULTIPLIER ANALYSIS

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

PERCENT OF INFLUENCE ON CHART MANHOURS

	40%	50%	60%	70%	80%	90%	100%	105%	110%	% OF INFLUENCE	WT'D VALUE	PROD. RESULT
CRAFT SKILL (NOTE 1)	POOR			FAIR			STD	V.GOOD	EXCELLENT	90.0%	12.0%	0.108
CRAFT AVAIL.(NOTE 1)		POOR		FAIR			STD			100.0%	8.0%	0.08
CLIMATE (NOTE 2)	SEVERE	ICE/SNOW			RAIN		+40 TO +85			80.0%	20.0%	0.16
PLANT ELEVATION		OVER 10,000FT			5,000' TO 10,000 FT		UNDER 5,000 FT			100.0%	5.0%	0.05
WORK SPACE				200 SF	250 SF	300 SF	350 SF			100.0%	10.0%	0.1
	<— MULTIPLE SHIFTS-											
WORK WEEK						5-10s per Means R010-110				85.0%	15.0%	0.1275
50 HOUR WORK WEEK	//// MULTIPLE-SHIFT ////			OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS						
60 HOUR WORK WEEK			OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS							
SHIFTWORK												
2ND SHIFT					2ND SHIFT		OR ONE SHIFT ONLY			100.0%	3.0%	0.03
3RD SHIFT			3RD SHIFT							100.0%	5.0%	0.05
PROJECT SIZE					400M MH AND UP	300M TO 400M MH	200M TO 300M MH	200M MH OR LESS		105.0%	4.0%	0.042
PLANT TYPE				REVAMP ONLY	REVAMP & NEW	NEW IN EXIST PLT	GRASS ROOTS			95.0%	8.0%	0.076
AREA/UNION INFLUENCE	STRONG		MILD		SOME		NONE			80.0%	10.0%	0.08
											100.0%	90.4%

NOTES.....
1. TURNOVER HAS BEEN CONSIDERED
2. FOR EXTERIOR WORK ONLY

EFFICIENCY (AS A % OFF CHART MANHOURS) 90.4%

MULTIPLIER - (TO BE APPLIED TO CHART M.H.'S TO OBTAIN SITE M.H.'S) 1.11

APPENDIX "B"

EFFICIENCY FACTORS

PROJECT: Baseline CCPLC Cell4 Liner 03 Wise
ESTIMATE N C2-01-05-01-C3
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

Fluor Fernald, Inc.

EXAMPLE:

STANDARD CHART MANHOURS =	NET	100
EFFICIENCY FACTORS:		
• SITE SPECIFIC (SEE APPENDIX A)	11%	11.0
S/T = BASE UNIT MANHOURS		111
OVERTIME PRODUCTIVITY FACTOR	0.00%	0
(SEE DETAIL WORKSHEET BACK-UP)		111
• TASK SPECIFIC (confined space, high elevation, congestion, etc.)	0.0%	0
		111
• PPE SPECIFIC (Based on current data and estimating knowledge)		

	PPE LEVEL											
	D		Mod.'D'		Mod. "C"		C		C+		B	
PRODUCTIVITY HOURS		MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's
(AS A %) / ADD MH's	6.00%	7	27.00%	30	66.00%	73	74.00%	82	96.00%	107	110.00%	122
ULTIPLIER)/TOTAL HRS	1.06	117.7	1.27	141	1.66	184.3	1.74	193.1	1.96	217.6	2.10	233.1
TOTAL MULT. * SITE PROD	1.1766		1.4097		1.8426		1.9314		2.1756		2.1756	

NOTE : Use the Default Productivity Factor of 'mC' for working in a contaminated area if the Safety Level cannot be determined.

(SEE FD FERNALD ESTIMATING SERVICES REFERENCE MANUAL IM-6006 8.10)

Total hours worked in a specific PPE level divided by 10 hour working days = (PPE) ManDays to determine material cost of PPE's.
(SEE APPENDIX C - HEALTH PHYSICS)

	12.0	Man Days	14.0	Man Days	18.0	Man Days	19.0	Man Days	22.0	Man Days	23.0	Man Days

THESE EFFICIENCY FACTORS WERE APPLIED INDIVIDUALLY THROUGHOUT THE ESTIMATE AT A TASK SPECIFIC LEVEL, TO OBTAIN A MORE ACCURATE ACCOUNT OF OVERALL EFFICIENCY IMPACT DUE TO PPE REQUIREMENTS IN HANDLING CONTAMINATED AND HAZARDOUS WASTE.

APPENDIX "B"

EFFICIENCY FACTORS

PROJECT: Baseline CCPLC Cell4 Liner 03 Wise
ESTIMATE N C2-01-05-01-C3
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

PPE MULTIPLIER DEVELOPEMENT

		D	mD	mC	C	C+	B
CREW SIZE & MAKE-UP	STANDARD	7	7	7	7	7	7
	WORKER-BUDDY	0	0	0	0	0	0
	SUPPORT TEAM	0	0	0	0	0	0
	TOTAL CREW	7	7	7	7	7	7
CREW SIZE RATIO		1.00	1.00	1.00	1.00	1.00	1.00
AVAILABLE WORK TIME FACTOR		0.94	0.79	0.70	0.70	0.68	0.68
PPE LABOR PRODUCTIVITY FACTOR		1	1	0.86	0.82	0.75	0.70
NET PRODUCTIVITY RATIO		0.94	0.79	0.602	0.574	0.51	0.476
NET PRODUCTIVITY MULTIPLIER		1.06	1.27	1.66	1.74	1.96	2.10

These factors were based on Tables 6.1 and 6.2. Moderate Work Efforts, 66F to 85F temperature of 'Hazardous Waste Cost Control' by R.A.Selg.
Modifications were made to reflect a 10 hour work day and no buddy system or support team for levels D, mC and C.
The worker-buddy and support team members, if required, may be covered under Construction Mgmt. (Rad Techs).

AVAILABLE WORK TIME FACTOR		D	mD	mC	C	C+	B
TOTAL WORK MINUTES (4 - 10's		600	600	600	600	600	600
ADDITN'L.SITE SAFETY MEETINGS NC	QUANTITY	1	1	1	1	1	1
	MINUTES	25	25	25	25	25	25
TOTAL		25	25	25	25	25	25
PPE DON & DOFFING	QUANTITY	0	0	3	3	3	3
(ADJUST LEVEL D per WORK PLAN)	MINUTES	0	0	15	15	20	20
TOTAL			0	45	45	60	60
WORK BREAKS	QUANTITY	N/A	2	2	2	2	2
(ADJUST LEVEL D per WORK PLAN)	MINUTES	N/A	15	15	15	15	15
TOTAL			30	30	30	30	30
MOBILIZATION - ROUND TRIPS	QUANTITY	N/A	4	4	4	4	4
(ADJUST LEVEL D per WORK PLAN)	MINUTES	N/A	15	15	15	15	15
TOTAL			60	60	60	60	60
COOLDOWNS PER DAY	QUANTITY	3	3	4	4	4	4
** (4 OUT OF 12 MONTHS 33.33%	MINUTES	12	12	15	15	15	15
TOTAL		12	12	20	20	20	20
AIR TANK REPLACEMENT	QUANTITY	N/A	N/A	N/A	N/A	N/A	N/A
	MINUTES	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL							
AVAILABLE WORK TIME		563	473	420	420	405	405
AVAILABLE WORK TIME FACTOR		0.94	0.79	0.7	0.7	0.68	0.68

NOTE: Adjust 'Work Minutes per Day' basis to: 5 - 8's, or leave as 4 - 10's. Any other circumstances, over-ride the minutes per day.

** Assumption based on work performed in May, June, July & August, pro-rating cost over one year. Adjust % to individual circumstances.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: Baseline CCPLC Cell4 Liner 03 Wise
ESTIMATE NO C2-01-05-01-C3
CLIENT: DOE
WBS NO.: 1.1.C.D

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

PPE's - PERSONAL PROTECTIVE EQUIPMENT

DESCRIPTION	UNIT	UNIT COST	* NO. OF CHANGE OUTS PER WORKER PER DAY	MAN DAYS	MAT'L.$'s	LEVEL
			Man Days (TOTAL HOURS worked in PPE's Div. by WORK HOURS/DAY)			
PPE LEVEL C / C+		$'s	*	MAN DAYS	MAT'L.$'s	LEVEL
LAUNDRY COST per CHANGE	SET	1.96	1	0	$0	C/B
TYVEK COVER-ALL w/HOOD & BOOTIES - DIS	EA	4.46	3	0	$0	C/B
TYVEK COVER-ALL w/HOOD & BOOTIES - DIS	EA	4.46	3	0	$0	C/B
GLOVE LINER - DISPOSABLE	PR	0.24	3	0	$0	C/B
GLOVE, LASTEX - DISPOSABLE	PR	0.26	3	0	$0	C/B
GLOVE, WORK - DISPOSABLE	PR	1.02	3	0	$0	C/B
APR CARTRIDGES - DISPOSABLE, CLEANING	PR	9.38	3	0	$0	C/B
SUB-TOTAL				0	$0	
				$/MD =	#DIV/0!	

PPE LEVEL mC						
RESS w/ FACE SHIELD		$'s		MAN DAYS	MAT'L.$'s	LEVEL
LAUNDRY COST per CHANGE	SET	1.96	1	0	$0	mC
LT.WT. DISPOSABLE COVERALLS W/HOOD &	PR	4.46	3	0	$0	mC
GLOVE LINER - DISPOSABLE	PR	0.24	3	0	$0	mC
GLOVE, LASTEX - DISPOSABLE	PR	0.26	3	0	$0	mC
GLOVE, WORK - DISPOSABLE	PR	1.02	3	0	$0	mC
SUB-TOTAL				0	$0	mC
				$/MD =	#DIV/0!	

PPE LEVEL D						
LAUNDRY COST per CHANGE	SET	1.96	1	77	$151	D

SUBCONTRACTOR REQUIRED PURCHASES	UNIT		QTY. PER WKR.	NO. OF WORKERS	MAT'L. $'s	LEVEL
RUBBER BOOT COVERS-(1)PR.PER WORKER	PR	12.70	1	5	$64	D/C/B
APR w/HALF FACE MASK - (1) PER WORKER	EA	22.30	6	0	$0	C
APR w/FULL FACE MASK - (1) PER WORKER	EA	174.00	6	0	$0	C
SCBA	EA	1894.00	2	0	$0	B
COOL VESTS	EA	137.50	6	0	$0	C/B
THERMO STRIPS	EA	50.00	6	0	$0	C/B
SUB-TOTAL					$60	C/B

Total PPE Matl $ and Laundry $	$200

(FORWARD TO PAGE 2 OF 2)

OTHER PPE's SUCH AS HARD HAT, SAFETY GLASSES/GOGGLES, STEEL TOED SAFETY SHOES, HEARING PROTECTION, ARE CONSIDERED THE SUBCONTRACTORS RESPONSIBILITY AND ARE COVERED IN HIS OVERHEAD EXPENSE. FD FERNALD SUPPLIED PPE's, SUCH AS COTTON COVERALLS, EXCHANGE OF RUBBER BOOT COVERS AND RESPIRATORS FOR CHANGEOUTS AND CLEANING OF SAME IS INCLUDED.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: Baseline CCPLC Cell4 Liner 03 Wise
ESTIMATE NO C2-01-05-01-C3
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

--MEDICAL MONITORING --

MEDICAL - PHYSICAL and IN-VIVO MONITORING - LOST WORKER TIME for RAD II WORKERS ONLY

DESC. PHYSICAL (3hrs), IN-VIVO (1hr)	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $	
BASELINE PHYSICALS	1	4	0	0	$39.37	$0	
ANNUAL PHYSICALS	0	4	0	0	$39.37	$0	
EXIT (TERMINATION) PHYSICALS (IN-VIVO)	1	1	0	0	$39.37	$0	
SUB-TOTAL						$0	

RADIATION IN-VITRO SURVEILLANCE - LOST WORKER TIME for RAD II WORKERS ONLY

DESC.	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $	
BI-MONTHLY BIOASSAY	0	1	0	0	$39.37	$0	
SUB-TOTAL						$0	

RANDOM DRUG TESTING

	TESTS	HRS	TOTAL HRS	AVG. RATE	LABOR $'s	
	1	2	2	$39.37	$100	
NO. OF WKRS. TESTED	TESTING DAYS PER YR.	AVG. NO. OF TESTS PER DAY	CHANCE/ DAY FOR TEST	NO. OF WKRS. FOR THIS ESTIMATE	CHANCES /DAY FOR TEST for this PROJECT	CONSTR WORKING DAYS
2500	226	11	0.0044	5	0.022	29

			LABOR $'s THRU SAFETY	LABOR $'s	
WORK DELAYS CAUSED BY MONITORING	0.5%		$37,100	$200	
				LABOR $'s	
WORK DELAYS CAUSED BY RAD CHECKING	1.0%		$37,100	$400	

	TOTAL LABOR	TOTAL MAT'L	GRAND TOTAL
TOTAL HEALTH PHYSICS - FORWARD TO ESTIMATE SUMMARY SHEET	$700	$200	$900

ACTIVITY DURATIONS

PROJECT: Baseline CCPLC Cell4 Liner 03 Wise
ESTIMATE N C2-01-05-01-C3
CLIENT: DOE
WBS NO.: 1.1.C.D

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION	
CONSTRUCTION:	09-May-01	15-Aug-03	07-Sep-03	30-Sep-03	1.5	MONTHS	15.1%
					0	MONTHS	
TOTAL					1.5	MONTHS	
			Entire cell 4 cap -		10		

	DATE of EST. to MID-POINT ACTIVITY DURATION	
a.	28.0	MONTHS
b.	0	MONTHS

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION
OPERATIONS					0	MONTHS

DATE of EST. to MID-POINT ACTIVITY DURATION	
0	MONTHS

ACTIVITY DURATION IS USED IN DETERMINING NUMBER of WORKERS for CERCLA/SAT TRAINING HOURS and HEALTH PHYSICS COSTS.

ESTIMATE SUMMARY SHEET

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY04
ESTIMATE #: C2 -01-05-01-C4
CLIENT: DOE
WBS #: 1.1.C

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	EQUIP. $	TOTAL $
Insurance & Bond				$102,410			$102,410
Submittals	2,626		$100,430		$200		$100,630
Overhead and Profit				$553,740			$553,740
Mobilization	70		$1,650	$3,690	$4,600		$9,940
Off Hours Dust Control				$20,000			$20,000
Survey				$45,300			$45,300
Erosion & Sed Control	60		$1,450			$1,370	$2,820
Site Preparation	1,240		$30,520		$13,910	$64,690	$109,120
Clay Liner	3,708		$89,150		$260	$182,170	$271,580
Geosynthetics Purchase by FF				$649,930			$649,930
Secondary Liner	2,775		$64,420	$87,900	$9,000	$37,460	$198,780
Primary Liner	2,400		$57,420	$271,500	$9,190	$32,360	$370,470
Secondary Drainage	1,400		$34,390		$146,100	$57,360	$237,850
Primary Drainage	1,550		$38,490		$157,220	$60,310	$256,020
Leak Detection Testing	150		$3,600	$18,600		$930	$23,130
Project Staffing	3,913		$127,520				$127,520
DIRECT FIELD COSTS TOTAL	**19,893**	**$27.60**	**$549,040**	**$1,753,070**	**$340,480**	**$436,650**	**$3,079,240**
SUPERVISION - CONTRACTOR							
SMALL TOOLS & CONSUMABLES	-	-	-		$6,700		$6,700
MISC. EQUIP. RENTAL	-	-	-			$25,900	$25,900
TEMPORARY FACILITIES incl w/Mobilization							
TEMPORARY UTILITY HOOK-UP incl w/Mobilzation							
JOB CLEAN-UP incl w/Job Close-out							
PER DIEM / SUBSISTANCE	-	-	-				
HEALTH PHYSICS S/C incl w/Submittals							
CERCLA - TRAINING incl w/Submittals							
GET/SITE ACCESS & JOB SPECIFIC TRAINING w/su							
PAYROLL BURDENS & BENEFITS	-	-	$313,000				$313,000
OVERHEAD & PROFIT	-	-	-				
BOND	-	-	-				
SALES TAX	-	-	-		$20,800	$27,800	$48,600
INDIRECT FIELD COSTS TOTAL			**$313,000**		**$27,500**	**$53,700**	**$394,200**
DIRECT & INDIRECT FIELD COSTS TOTAL	**19,893**	**$43.33**	**$862,040**	**$1,753,070**	**$367,980**	**$490,350**	**$3,473,440**
TARGET ESTIMATE			**(FY 01 DOLLARS)**				**$3,473,400**

ESTIMATE PERFORMED BY ESTIMATING SERVICES

ESTIMATE SUMMARY SHEET

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FYI

DATE: 17-May-01

ESTIMATE NO. C2 -01-05-01-C4

FACTORS

ESTIMATOR: RIS

CLIENT: DOE

LOCATION: FERNALD

WBS NO.: 1.1.C

TASK NO.: CCPLC

FIXED PRICE $	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
DFC DOLLARS	$549,040	$1,753,070	$340,480	$436,650		$3,079,240
IFC COST FACTOR	1.5701	--	1.0197	1.0593	--	
BOND + OVERHEAD & PROFIT COST FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	
SALES TAX	-	-	1.0600	1.0600	1.0600	
DIRECT FIELD COST FACTOR =	1.5701	1.0000	1.0809	1.1229	1.0600	
BASE ESTIMATE $'S	$862,040	$1,753,070	$368,011	$490,303		$3,473,424
BASE FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	
TARGET ESTIMATE FACTOR	1.5701	1.0000	1.0809	1.1229	1.0600	
FPS TARGET ESTIMATE (FY00 $)	$862,040	$1,753,070	$368,011	$490,303		$3,473,424

NOTE:

IF THERE ARE NO DFC EQUIP. $, ENTER THE IFC EQUIP. $'S INTO THE DIRECT FIELD COST TOTAL AND DELETE IFC FACTOR IN G65.

ESTIMATE SUMMARY SHEET

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FYI
ESTIMATE NO. C2 -01-05-01-C4
CLIENT: DOE
WBS NO.: 1.1.C

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

DIRECT FIELD COST W/FACTORS

PAY ITEM NO.	DESCRIPTION	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
		(ASSIGN OR PRORATE PPE MAT'L.$'S)-->>					
	Insurance & Bond		102410 $102,410				$102,410
	Submittals	100430 $157,680		200 $220			$157,900
	Overhead and Profit		553740 $553,740				$553,740
	Mobilization	1650 $2,590	3690 $3,690	4600 $4,970			$11,250
	Off Hours Dust Control		20000 $20,000				$20,000
	Survev		45300 $45,300				$45,300
	Erosion & Sed Control	1450 $2,280			1370 $1,540		$3,820
	Site Preparation	30520 $47,920		13910 $15,030	64690 $72,640		$135,590
	Clay Liner	89150 $139,970		260 $280	182170 $204,550		$344,800
	Geosynthetics Purchase by FF		649930 $649,930				$649,930
	Secondary Liner	64420 $101,140	87900 $87,900	9000 $9,730	37460 $42,060		$240,830
	Primary Liner	57420 $90,150	271500 $271,500	9190 $9,930	32360 $36,340		$407,920
	Secondary Drainage	34390 $54,000		146100 $157,910	57360 $64,410		$276,320
	Primary Drainage	38490 $60,430		157220 $169,930	60310 $67,720		$298,080
	Leak Detection Testing	3600 $5,650	18600 $18,600		930 $930		$25,180
	Project Staffing	127520 $200,220					$200,220
TOTAL DIRECT FIELD COSTS W/FACTORS		(FY01 DOLLARS)					$3,473,290

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY04
ESTIMATE NO.: C2 -01-05-01-C4
CLIENT: DOE
WBS NO.: 1.1.C

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

ITEM NO.	SUMMARY	QTY	UNIT	MAN-HOURS			COST / UNIT				LABOR	S/C	MAT'L	EQUIP	TOTAL
				Unit	Total	Rate	Labor	S/C	Mat'l	Equip					
	Insurance & Bond											$102,410			$102,410
	Submittals				2626						$100,430		$200		$100,630
	Overhead and Profit											$553,740			$553,740
	Mobilization				70						$1,650	$3,690	$4,600		$9,940
	Off Hours Dust Control											$20,000			$20,000
	Survey											$45,300			$45,300
	Erosion & Sed Control				60						$1,450			$1,370	$2,820
	Site Preparation				1,240						$30,520		$13,910	$64,690	$109,120
	Clay Liner				3,708						$89,150		$260	$182,170	$271,580
	Geosynthetics Purchase by FF											$649,930			$649,930
	Secondary Liner				2,775						64,420	87,900	9,000	37,460	$198,780
	Primary Liner				2,400						$57,420	$271,500	$9,190	$32,360	$370,470
	Secondary Drainage				1,400						$34,390		$146,100	$57,360	$237,850
	Primary Drainage				1,550						$38,490		$157,220	$60,310	$256,020
	Leak Detection Testing				150						3,600	18,600		930	$23,130
	Project Staffing				3,913						127,520				$127,520
	Subtotal Direct Cost	1	LOT		19893						549,040	1,753,070	340,480	436,650	$3,079,240

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY04
ESTIMATE NO.: C2 -01-05-01-C4
CLIENT: DOE
WBS NO.: 1.1.C

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Insurance & Bond														
	Performance bond 1.3%							COST							
	Insurance 1.5%							THRU							
	Sub-total 2.8%							OH & P 3322428				$93,030			$93,030
	Submittals														
D	Plans	16	EA	50	800	50.62					$40,500				$40,500
D	Technical submittals	100	EA	5	500	50.62					$25,310				$25,310
D	Site access & GET traing, cnstrct work	25	EA	18	450	23.64					$10,640				$10,640
D	Site access & GET traing, PM, CM etc	7	EA	18	126	32.59					$4,110				$4,110
D	Site access & GET traing, surveyers &	4	EA	18	72	50.00					$3,600				$3,600
mD	CERCLA/RAD II training, constrct work	10	EA	25	250	23.64					$5,870				$5,870
mD	CERCLA/RAD II traing, PM, CM etc	4	EA	25	100	32.59					$2,500				$2,500
mD	CERCLA/RAD II traing, surveyers & oth	4	EA	25	100	46.67					$2,500				$2,500
D	Health Physics				228	23.64					$5,400		$200		$5,600
	Sub-total				2626						$100,430		$200		$100,630
	Overhead and Profit														
				20%								$553,740			$553,740

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY04
ESTIMATE NO.: C2 -01-05-01-C4
CLIENT: DOE
WBS NO.: 1.1.C

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

	Mobilization	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	S/C Office Trailer 2 reqd	7	MO					550				$2,450			$2,450
	Support trailer 1 reqd	7	MO					350				$780			$780
	Trailer rental & portolets spread 1/3 each														
	liner, placement, cap														
D															
D						23.64									
D						23.64									
D															
D															
D															
	Portable toilets 2 ea	7	MTH					85				$380			$380
	Potable water, Allow 5jug/mth, $8/jug	7	MTH					12	40			$80	$300		$380
D													$4,300		$4,300
D	Mobilize contractor equipment	20	EA	3	70	23.64					$1,650				$1,650
	Mobilization				70						1,650	3,690	4,600		$9,940

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY04
ESTIMATE NO.: C2 -01-05-01-C4
CLIENT: DOE
WBS NO.: 1.1.C

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

ITEM NO.	Site Preparation		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
D	Construction fence		1000	LF	0.04	40	23.64			$1.05		$950		$1,050		$2,000
D	Haul road	5 days	440	LF												
D	#304 stone		500	TON						13.05				$6,530		$6,530
	Geotex		11000	SF						0.08				$880		$880
	Fill		1000	CY						on site						
D	3 teamsters		5	DAY	10	150	22.86					$3,430				$3,430
D	3 operators		5	DAY	10	150	27.03					$4,050				$4,050
D	2 laborers		5	DAY	10	100	22.65					$2,260				$2,260
	Truck, Volvo A30, 2 reqd	5 day =	0.23	MTH							7905				$3,650	$3,650
	Sheepsfoot roller, Cat 824	5 day =	0.23	MTH							13390				$3,090	$3,090
	Loader ,Cat 966	5 day =	0.23	MTH							6820				$1,570	$1,570
	Dozer, D6	5 day =	0.23	MTH							7040				$1,620	$1,620
	Truck, Volvo A30, 2 reqd @ 85%			HR	85						27.12				$2,310	$2,310
	Sheepsfoot roller, Cat 824 @ 85%			HR	43						41.55				$1,770	$1,770
	Loader ,Cat 966 @ 85%			HR	43						24.90				$1,060	$1,060
	Dozer, D6 @ 85%			HR	43						21.87				$930	$930
	Removal of topsoil (2000cy) & excavate liner 4 (4000cy)															
D	4 teamsters		7	DAY	10	280	22.86					$6,400				$6,400
D	3 operators		7	DAY	10	210	27.03					$5,680				$5,680
	Truck, Volvo A30, 4 reqd	7 day =	0.32	MTH							7905				$10,220	$10,220
	Dozer, D8	7 day =	0.32	MTH							13145				$4,250	$4,250
	Excavator Cat330	7 day =	0.32	MTH							11490				$3,710	$3,710
	Truck, Volvo A30, 4 reqd @ 85%			HR	238						27.12				$6,450	$6,450
	Waterwagon, 1 reqd, @ 85%			HR	60						24.10				$1,430	$1,430
	Dozer, D8 @ 85%			HR	60						39.66				$2,360	$2,360
	Excavator Cat330 @ 85%			HR	60						32.15				$1,910	$1,910
	Site Preparation													880	6070	$6,950

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY04
ESTIMATE NO.: C2 -01-05-01-C4
CLIENT: DOE
WBS NO.: 1.1.C

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

ITEM NO.			QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Site Prep continued															
	Maintain liner #4 subgrade															
D	2 laborers		2	DAY	10	40	22.65					$910				$910
D	1 operator		2	DAY	10	20	27.03					$540				$540
	Dozer, D6	2 day -	0.09	MTH							7040				$650	$650
	Smooth drum roller, Cat 563	2 day -	0.09	MTH							4335				$400	$400
	3"pump w/50' ea suctn/dischr hose	2 day -	0.09	MTH							496				$50	$50
	Dozer, D6 @ 85%			HR	17						21.87				$370	$370
	Smooth drum roller, Cat 563 @ 85%			HR	17						15.48				$260	$260
	3"pump w/50' ea suctn/dischr hose @ 50%			HR	10						0.75				$10	$10
	Gravity inlet structure															
D	1. Riser, 3' ID, 4" thk RC		15	FT	0.8	14	29.03			56	77	$410		$830	$1,350	$2,590
D	2. Cap, 5' ID, 7"-8" thk RC		2	EA	3	7	29.03			918	29	$200		$1,840	$70	$2,110
D	3. Outlet piping, 12"RCP		180	FT	0.184	39	29.03			10.5	0.79	$1,120		$1,880	$170	$3,170
D	4. Excavation		1506	BCY	0.015	26	23.64				0.82	$620			$1,440	$2,060
	5. Backfill															
D	a. Embedment fill		1.0	ICY	0.053	1	23.64			19.5	0.95	$20		$20		$40
D	a. Compacted fill		1458	ICY	0.052	88	23.64				1.00	$2,090			$1,700	$3,790
	North Entrance Road Removal		1000	CY												
D	2 Operators		1.5	DAY	10	30	27.03					$810				$810
D	3 Teamsters		1.5	DAY	10	45	22.86					$1,030				$1,030
	Excavator Cat 330	1.5 day	0.07	MTH							11490				$930	$930
	Truck, Volvo A30, 3 reqd	1.5 day	0.07	MTH							7905				$1,640	$1,640
	Dozer, Cat D6	1.5 day	0.07	MTH							7040				$570	$570
	Excavator Cat 330 at	85%		HR	15						32.15				$480	$480
	Truck, Volvo A30, 3 reqd at	85%		HR	15						27.12				$1,220	$1,220
	Dozer, Cat D6 at	85%		HR	15						21.87				$980	$980
	Site Preparation		1	LOT		1,240	$24.61					$30,520		$13,910	$64,690	$109,120

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY04
ESTIMATE NO.: C2 -01-05-01-C4
CLIENT: DOE
WBS NO.: 1.1.C

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

ITEM NO.	Clay Liner		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Borrow area road maintenance															
	Included w/clay liner activity															
D	Traffic Signs @ Borrow & N Ent Road Intersctn		1	LOT	8	8	23.64			260	47	$190		$260	$50	$500
	Install & remove															
	Load Clay fr Borrow Area															
D	6 teamsters		25	DAY	10	1500	22.86					$34,290				$34,290
D	1 operator		25	DAY	10	250	27.03					$6,760				$6,760
	Truck, Volvo A30, 6 reqd	25 day	1.15	MTH							7905				$54,730	$54,730
	Waterwagon incl w/borrow area															
	Excavator Cat330	25 day	1.15	MTH							11490				$13,260	$13,260
	Truck, Volvo A30, 6 reqd @ 85%			HR	1275						27.12				$34,580	$34,580
	Excavator Cat330 @ 85%		33000 CY	HR	213						32.15				$6,830	$6,830
	Place Clay 33000 CY															
D	3 operators		25	DAY	10	750	27.03					$20,270				$20,270
D	4 laborers		25	DAY	10	1000	22.65					$22,650				$22,650
	Soil stabilizer, Cat SS250	25 day		MTH							12095					
	Dozer, D8	25 day	1.15	MTH							13145				$15,170	$15,170
	Sheepsfoot roller Cat 825	25 day	1.15	MTH							13390				$15,450	$15,450
	Smooth drum roller, Cat 563	25 day		MTH							4335					
	Waterwagon, 1 reqd, @ 85%			HR							24.10					
	Soil stabilizer Cat SS250 @ 85%			HR	213						34.00				$7,230	$7,230
	Dozer, D8 @ 85%			HR	213						39.66				$8,430	$8,430
	Sheepsfoot roller Cat 825 @85%			HR	213						41.55				$8,830	$8,830
	Smooth drum roller, Cat 563 @ 50%			HR	125						15.48				$1,940	$1,940

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY04
ESTIMATE NO.: C2 -01-05-01-C4
CLIENT: DOE
WBS NO.: 1.1.C

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

ITEM NO.	Clay Liner cont'd		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Remove excess clay															
D	2 teamsters		5	DAY	10	100	22.86					$2,290				$2,290
D	2 operator		5	DAY	10	100	27.03					$2,700				$2,700
	Dozer, D8	5 day -	0.23	MTH							13145				$3,030	$3,030
	Excavator Cat330	5 day -	0.23	MTH							11490				$2,650	$2,650
	Smooth drum roller, Cat 563	5 day -	0.23	MTH							4335				$1,000	$1,000
	Truck, Volvo A30, 2 reqd	5 day -	0.23	MTH							7905				$3,650	$3,650
	Dozer, D8 @	85%		HR	43						39.66				$1,690	$1,690
	Excavator Cat330 @	43%		HR	21						32.15				$680	$680
	Smooth drum roller, Cat 563 @	85%		HR	43						15.48				$660	$660
	Truck, Volvo A30, 2 reqd @	85%		HR	43						27.12				$2,310	$2,310
	Clay Liner					3708						$89,150		$260	$182,170	$271,680

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY04
ESTIMATE NO.: C2 -01-05-01-C4
CLIENT: DOE
WBS NO.: 1.1.C

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Off Hours Dust Control Allow $40,000 per year split between cell cap & cell liner	0.5	LOT					40000				$20,000			$20,000
D	Survey 6.7 mth							68000				$45,300			$45,300
	Subtotal Direct Cost	1	LOT									$65,300			$65,300

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY04
ESTIMATE NO.: C2 -01-05-01-C4
CLIENT: DOE
WBS NO.: 1.1.C

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Erosion & Sed Control														
	Surface water mgmt & erosion control (SWM&EC)														
	Install SWM&EC														
D	1 operator	2	DAY	10	20	27.03					$540				$540
D	2 laborer	2	DAY	10	40	22.65					$910				$910
	Dozer, D6 5 day =	0.09	MTH							7040				$650	$650
	Smooth drum roller, Cat 563 5 day =	0.09	MTH							4335				$400	$400
	Dozer, D6 @85%		HR	9						21.87				$190	$190
	Smooth drum roller, Cat 563 @85%		HR	9						15.48				$130	$130
	Erosion & Sed Control	1	LOT		60						$1,450			$1,370	$2,820

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY04
ESTIMATE NO.: C2 -01-05-01-C4
CLIENT: DOE
WBS NO.: 1.1.C

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Geosynthetics Purchase by FF														
	Geomembrane, 80 mil textured (GML)	770000	SF					0.30				$231,000			$231,000
	Geomembrane, 80 mil smooth (GML)	4000	SF					0.60				$2,400			$2,400
	Geomembrane, 30 mil smooth (GML)	28000	SF					0.15				$4,200			$4,200
	GCL	770000	SF					0.40				$308,000			$308,000
	Geotextile cushion 10 oz	790000	SF					0.08				$63,200			$63,200
	Geotextile cushion 16 oz	74500	SF					0.12				$8,940			$8,940
	Geotextile filter 7 oz	460000	SF					0.06				$27,600			$27,600
	Welding rod	120	BOX					24.00				$2,880			$2,880
	Bentonite 1 bag per 2250sf GCL	342	BAG					5.00				$1,710			$1,710
	Sub-total											$649,930			$649,930
		1	LOT												

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY04
ESTIMATE NO.: C2 -01-05-01-C4
CLIENT: DOE
WBS NO.: 1.1.C

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

ITEM NO.	Secondary Liner	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Penetration Boxes														
	3 secondary	3	LOT						1619				$4,860		$4,860
D	2 pipefitters	12	DAY	10	240	29.62					$7,110				$7,110
D	2 laborers	12	DAY	10	240	22.65					$5,440				$5,440
D	1 operator	12	DAY	10	120	27.03					$3,240				$3,240
	Compactor, Wacker RS800V 2 req 12 day	0.55	MTH							985				$1,090	$1,090
	Excavator Cat330 13 day	0.55	MTH							11490				$6,360	$6,360
	Compactor, plate 85%		HR	102						1.80				$370	$370
	Excavator Cat330 @ 85%		HR	102						32.15				$3,280	$3,280
	Pipe material for penetration boxes														
	6" SDR-11 HDPE: need 180lf, purch in 40ft lengths	200							2.87				$570		$570
	10" SDR-11 HDPE: need 180lf, purch in 40ft lengths	200							7.69				$1,540		$1,540
	6" SDR-11 HDPE perf: need 620lf, purch in 40ft lengths	640							3.17				$2,030		$2,030
	Receive & store geosynthetics, 15 days over 2 mths (cost distributed 50% secondary & 50% primary)														
	Cat TH83 forklift	2	MTH							3765				$3,770	$3,770
D	1 operator	15	DAYS	10	75	27.03					$1,010				$1,010
D	2 laborers	15	DAYS	10	150	22.65					$1,700				$1,700
	Cat TH83 forklift oper cost @ 85%	63.75	HR							12.45				$400	$400
	Deploy GCL, GML, & geotextile	15	DAY												
D	2.5 operator	15	DAYS	10	375	27.03					$10,140				$10,140
D	10 laborers	15	DAYS	10	1500	22.65					$33,970				$33,970
	Cat TH83 forklift	0.7	MTH							3765				$2,610	$2,610
	Positrac (priced as Cat 246)	0.7	MTH							2165				$1,500	$1,500
	Cat 563 smooth drum roller	0.7	MTH							4335				$3,000	$3,000
	Cat TH83 forklift @ 85%		HR	319						12.45				$3,970	$3,970
	Positrac (priced as Cat 246) @ 85%		HR	319						7.25				$2,310	$2,310
	Cat 563 smooth drum roller @ 85%		HR	319						15.48				$4,930	$4,930

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY04
ESTIMATE NO.: C2 -01-05-01-C4
CLIENT: DOE
WBS NO.: 1.1.C

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

ITEM NO.	Secondary Liner cont'd	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Install secondary liner by S/C														
D	GCL	325000	SF					0.07				$22,800			$22,800
D	GML	325000	SF					0.15				$48,800			$48,800
D	Geotextile cushion	325000	SF					0.05				$16,300			$16,300
	Trenching & liner terminations														
	shared 50% by secondary & primary														
D	1 operator	5	DAYS	10	25	27.03					$680				$680
D	2 laborers	5	DAYS	10	50	22.65					$1,130				$1,130
	Excavator Cat330 5 day -	0.23	MTH							11490				$2,650	$2,650
	Compactor, Wacker RS800V 2 req 5 day -	0.23	MTH							2165				$500	$500
	Excavator Cat 330 @ 85%		HR	21						32.15				$680	$680
	Compactor @ 85%		HR	21						1.80				$40	$40
	Secondary Liner				2,775						64,420	87,900	9,000	37,460	$198,780

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY04
ESTIMATE NO.: C2 -01-05-01-C4
CLIENT: DOE
WBS NO.: 1.1.C

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

ITEM NO.	Primary Liner		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Penetration Boxes															
	2 primary		2	LOT						1619				$3,240		$3,240
D	2 pipefitters		6	DAY	10	120	29.62					$3,550				$3,550
D	2 laborers		6	DAY	10	120	22.65					$2,720				$2,720
D	1 operator		6	DAY	10	60	27.03					$1,620				$1,620
	Compactor, Wacker RS800V 2 req	6 day -	0.28	MTH							985				$550	$550
	Excavator Cat330	6 day -	0.28	MTH							11490				$3,180	$3,180
	Compactor, plate	85%		HR	51						1.80				$180	$180
	Excavator Cat330 @	85%		HR	51						32.15				$1,640	$1,640
	Deploy GCL, GML, & geotextile		15	DAY												
D	2.5 operator		15	DAYS	10	375	27.03					$10,140				$10,140
D	10 laborers		15	DAYS	10	1500	22.65					$33,970				$33,970
	Cat TH83 forklift		0.7	MTH							3765				$2,610	$2,610
	Positrac (priced as Cat 246)		0.7	MTH							2165				$1,500	$1,500
	Cat 563 smooth drum roller		0.7	MTH							4335				$3,000	$3,000
	Cat TH83 forklift @	85%		HR	319						12.45				$3,970	$3,970
	Positrac (priced as Cat 246) @	85%		HR	319						7.25				$2,310	$2,310
	Cat 563 smooth drum roller @	85%		HR	319						15.48				$4,930	$4,930
	Install secondary liner by S/C															
D	GCL		325000	SF					0.07				$168,800			$168,800
D	GML		325000	SF					0.15				$48,800			$48,800
D	Geotextile cushion		325000	SF					0.05				$16,300			$16,300
	Trenching & liner terminations															
	shared 50% by secondary & primary												$16,300			$16,300
D	1 operator		5	DAYS	10	25	27.03					$680				$680
D	2 laborers		5	DAYS	10	50	22.65					$1,130				$1,130
	Excavator Cat330	5 day -	0.23	MTH							11490				$2,650	$2,650
	Compactor, Wacker RS800V 2 req	5 day -	0.23	MTH							2165				$500	$500
	Excavator Cat 330 forklift @	85%		HR	21						32.15				$680	$680
	Compactor @	85%		HR	21						1.80				$40	$40

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY04
ESTIMATE NO.: C2 -01-05-01-C4
CLIENT: DOE
WBS NO.: 1.1.C

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

ITEM NO.	Primary cont'd		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Place geotextile 375000 + 50000 =		425000	SF												
D	2 laborers		5	DAY	.10	100	22.65					$2,260				$2,260
D	1 operator		5	DAY	10	50	27.03					$1,350				$1,350
	Compactor, Wacker RS800V 2 req	5 day =	0.23	MTH							985				$450	$450
	Excavator Cat330	5 day =	0.23	MTH							11490				$2,650	$2,650
	Compactor, plate	85%		HR	43						1.80				$150	$150
	Excavator Cat330 @	85%		HR	43						32.15				$1,370	$1,370
D	Geotextile		425000	SF					0.05				$21,300			$21,300
	Pipe material for penetration boxes															
	6" SDR-11 HDPE: need 350lf, purch in 40ft lengths		360							2.87				$1,030		$1,030
	10" SDR-11 HDPE: need 350lf, purch in 40ft lengths		360							7.69				$2,770		$2,770
	6" SDR-11 HDPE perf: need 650lf, purch in 40ft lengths		680							3.17				$2,150		$2,150
	Primary Liner			LOT		2,400	$23.93					57,420	271,500	9,190	32,360	$370,470

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY04
ESTIMATE NO.: C2 -01-05-01-C4
CLIENT: DOE
WBS NO.: 1.1.C

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

ITEM NO.	Secondary Drainage		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Secondary Drainage															
D	Receive & stockpile stone, # 78		11,500	TON						12				$138,000		$138,000
D	1 operator		20	DAYS	10	200	24.60					$4,920				$4,920
D	1 laborer		20	DAYS	10	200	23.75					$4,750				$4,750
	Dozer Cat D8		0.92	MTH							13145				$12,130	$12,130
	Dozer Cat D8 @	85%		HR	170						39.66				$6,740	$6,740
	#57 stone		675	TON						12				$8,100		$8,100
	Place stone															
D	3 operator		10	DAYS	10	300	27.03					$8,110				$8,110
D	3 laborers		10	DAYS	10	300	22.65					$6,790				$6,790
D	3 teamsters		10	DAYS	10	300	22.86					$6,860				$6,860
D	2 pipefitters		5	DAYS	10	100	29.62					$2,960				$2,960
	Dozer Cat D6	2 reqd	0.46	MTH							7040				$6,500	$6,500
	Loader Cat 966		0.46	MTH							6820				$3,150	$3,150
	Cat 563 smooth drum roller		0.46	MTH							4335				$2,000	$2,000
	Dozer Cat D6 @	85%		HR	85						21.87				$3,720	$3,720
	Loader Cat 966 @	85%		HR	85						24.90				$2,120	$2,120
	Cat 563 smooth drum roller @	85%		HR	85						15.48				$1,320	$1,320
	Truck, Volvo A30, 3 reqd		0.46	MTH							7905				$12,760	$12,760
	Truck, Volvo A30 @ 85%	85%		HR	85						27.12				$6,920	$6,920
	Secondary Drainage		1	LOT		1,400	$24.56					34,390		146,100	57,360	$237,850

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY04
ESTIMATE NO.: C2 -01-05-01-C4
CLIENT: DOE
WBS NO.: 1.1.C

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

ITEM NO.	Primary Drainage		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Primary Drainage															
D	Receive & stockpile stone, # 78		11,500	TON						12				$138,000		$138,000
D	1 operator		20	DAYS	10	200	24.60					$4,920				$4,920
D	1 laborer		20	DAYS	10	200	23.75					$4,750				$4,750
	Dozer Cat D8		0.92	MTH							13145				$12,130	$12,130
	Dozer Cat D8 @	85%		HR	170						39.66				$6,740	$6,740
	#57 stone		1602	TON						12				$19,220		$19,220
	Place stone															
D	3 operator		10	DAYS	10	300	27.03					$8,110				$8,110
D	3 laborers		10	DAYS	10	300	22.65					$6,790				$6,790
D	3 teamsters		10	DAYS	10	300	22.86					$6,860				$6,860
D	2 pipefitters		10	DAYS	10	200	29.62					$5,920				$5,920
	Dozer Cat D6	2 reqd	0.46	MTH							7040				$6,500	$6,500
	Loader Cat 966		0.46	MTH							6820				$3,150	$3,150
	Cat 563 smooth drum roller		0.46	MTH							4335				$2,000	$2,000
	Dozer Cat D6 @	85%		HR	85						21.87				$3,720	$3,720
	Loader Cat 966 @	85%		HR	85						24.90				$2,120	$2,120
	Cat 563 smooth drum roller @	85%		HR	85						15.48				$1,320	$1,320
	Truck, Volvo A30, 3 reqd		0.46	MTH							7905				$12,760	$12,760
	Truck, Volvo A30 @ 85%	85%		HR	85						27.12				$6,920	$6,920
	Dust control															
D	1/2 teamster		10	DAYS	10	50	22.86					$1,140				$1,140
	Waterwagon Cat 613		0.46	MTH							6400				$2,950	$2,950
	Waterwagon Cat 613 @	50%		HR	50						24.10					
	Primary Drainage					1,550	$24.83					38,490		157,220	60,310	$256,020

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY04
ESTIMATE NO.: C2 -01-05-01-C4
CLIENT: DOE
WBS NO.: 1.1.C

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

ITEM NO.	Leak Detection Testing	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Leak Detection Testing	1	LOT					18600				$18,600			$18,600
	Water Management														
D	1 operator	5	DAYS	10	50	24.60					$1,230				$1,230
D	2 laborers	5	DAYS	20	100	23.75					$2,370				$2,370
	Positrac (priced as Cat 246) 5 days	0.23	MTH							2165				$500	$500
	2"pump w/50' ea suctn/dischr hose 5 days	0.23	MTH							441				$100	$100
	Positrac (priced as Cat 246) @ 85%		HR	43						7.25				$310	$310
	Pump @ 50% 50%		HR	25						0.75				$20	$20
	Leak Detection Testing	1	LOT		150	$24.00					3,600	18,600		930	$23,130

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY04
ESTIMATE NO.: C2 -01-05-01-C4
CLIENT: DOE
WBS NO.: 1.1.C

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

ITEM NO.	Dust Control / Moisture Conditioning	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
D	Teamste 6.7 mth	109	DAYS	10	1085	22.86					$24,800				$24,800
	Water wagon Cat 613	5.0	MTH							6400				$32,050	$32,050
	Water wagon Cat 613 active 85%		HR	922						24.10				$22,230	$22,230
	Note: 75% for liner & 25% for borrow area for 6.7 months														
	Dust Control / Moisture Conditioning	1	LOT		1,085	$22.86					24,800			54,280	$79,080

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY04
ESTIMATE NO.: C2 -01-05-01-C4
CLIENT: DOE
WBS NO.: 1.1.C

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

ITEM NO.			QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Project Staffing		Shared percent													
D	Project Manager	6.7 mth	30%	hr	1	220	54.42					$11,980				$11,980
D	General Superintendent	6.7 mth	30%	hr	1	220	37.85					$8,330				$8,330
D	Superintendent	6.7 mth	38%	hr	2	983	32.99					$32,420				$32,420
D	Project Engineer	6.7 mth	40%	hr	1	524	33.19					$17,400				$17,400
D	Quality Engineer	6.7 mth	38%	hr	2	983	28.05					$27,570				$27,570
D	Safety Engineer	6.7 mth	38%	hr	2	983	30.34					$29,820				$29,820
D	Office Administration	in overhead					19.31									
D	Contract Administration/ Schedlr	in overhead					25.58									
D	Clerical	in overhead					14.58									
	TOTAL					3,913	32.59					$127,520				$127,520

APPENDIX " A"

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY04 — SITE SPECIFIC
ESTIMATE NC C2 -01-05-01-C4
CLIENT: DOE
WBS NO.: 1.1.C

EFFICIENCY / MULTIPLIER ANALYSIS

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

PERCENT OF INFLUENCE ON CHART MANHOURS

	40%	50%	60%	70%	80%	90%	100%	105%	110%	% OF INFLUENCE	WT'D VALUE	PROD. RESULT
CRAFT SKILL (NOTE 1)	POOR			FAIR			STD	V.GOOD	EXCELLENT	90.0%	12.0%	0.108
CRAFT AVAIL.(NOTE 1)		POOR		FAIR			STD			100.0%	8.0%	0.08
CLIMATE (NOTE 2)	SEVERE	ICE/SNOW			RAIN		+40 TO +85			80.0%	20.0%	0.16
PLANT ELEVATION		OVER 10,000FT			5,000' TO 10,000 FT		UNDER 5,000 FT			100.0%	5.0%	0.05
WORK SPACE				200 SF	250 SF	300 SF	350 SF			100.0%	10.0%	0.1
	<— MULTIPLE SHIFTS-											
WORK WEEK						5-10s per Means R010-110				85.0%	15.0%	0.1275
50 HOUR WORK WEEK	//////////	//////////	//////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS				0.0%	0.0%	0
	//// MULTIPLE-SHIFT ////////											
60 HOUR WORK WEEK	//////////	//////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS					0.0%	0.0%	0
	//////////	//////////										
SHIFTWORK							OR					
2ND SHIFT					2ND SHIFT		ONE SHIFT			100.0%	3.0%	0.03
3RD SHIFT			3RD SHIFT				ONLY			100.0%	5.0%	0.05
PROJECT SIZE					400M MH AND UP	300M TO 400M MH	200M TO 300M MH	200M MH OR LESS		105.0%	4.0%	0.042
PLANT TYPE				REVAMP ONLY	REVAMP & NEW	NEW IN EXIST PLT	GRASS ROOTS			95.0%	8.0%	0.076
AREA/UNION INFLUENCE	STRONG		MILD		SOME		NONE			80.0%	10.0%	0.08
											100.0%	90.4%

NOTES.....
1. TURNOVER HAS BEEN CONSIDERED
2. FOR EXTERIOR WORK ONLY

EFFICIENCY (AS A % OFF CHART MANHOURS) 90.4%

MULTIPLIER - (TO BE APPLIED TO CHART M.H.'S TO OBTAIN SITE M.H.'S) 1.11

EFFICIENCY FACTORS

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY04
ESTIMATE NO. C2 -01-05-01-C4
CLIENT: DOE
WBS NO.: 1.1.C

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

EXAMPLE:

STANDARD CHART MANHOURS =	NET	100
EFFICIENCY FACTORS:		
• SITE SPECIFIC (SEE APPENDIX A)	[redacted]	11.0
S/T = BASE UNIT MANHOURS		111
OVERTIME PRODUCTIVITY FACTOR	0.00%	0
(SEE DETAIL WORKSHEET BACK-UP)		111
• TASK SPECIFIC (confined space, high elevation, congestion, etc.)	0.0%	0
		111
• PPE SPECIFIC (Based on current data and estimating knowledge)		

	PPE LEVEL									
	D		Mod.'D'		Mod. "C"		C		C+	
PRODUCTIVITY HOURS		MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's
(AS A %) / ADD MH's	5.00%	6	27.00%	30	64.00%	71	72.00%	80	96.00%	107
(AS A MULTIPLIER)/TOTAL HRS	1.05	116.6	1.27	141	1.64	182	1.72	190.9	1.96	217.6
TOTAL MULTIPLIER w/SITE PROD.	1.1655		1.4097		1.8204		1.9092		2.1756	

NOTE : Use the Default Productivity Factor of 'mC' for working in a contaminated area if the Safety Level cannot be determined.

(SEE FD FERNALD ESTIMATING SERVICES REFERENCE MANUAL IM-6006 8.10)

Total hours worked in a specific PPE level divided by 10 hour working days = (PPE) ManDays to determine material cost of PPE's.
(SEE APPENDIX C - HEALTH PHYSICS)

12.0	Man Days	14.0	Man Days	18.0	Man Days	19.0	Man Days	22.0	Man Days

THESE EFFICIENCY FACTORS WERE APPLIED INDIVIDUALLY THROUGHOUT THE ESTIMATE AT A TASK SPECIFIC LEVEL, TO OBTAIN A MORE ACCURATE ACCOUNT OF OVERALL EFFICIENCY IMPACT DUE TO PPE REQUIREMENTS IN HANDLING CONTAMINATED AND HAZARDOUS WASTE.

EFFICIENCY FACTORS

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY04
ESTIMATE NO. C2 -01-05-01-C4
CLIENT: DOE
WBS NO.: 1.1.C

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

PPE MULTIPLIER DEVELOPEMENT

		D	mD	mC	C	C+
CREW SIZE & MAKE-UP	STANDARD	7	7	7	7	7
	WORKER-BUDDY	0	0	0	0	0
	SUPPORT TEAM	0	0	0	0	0
	TOTAL CREW	7	7	7	7	7
CREW SIZE RATIO		1.00	1.00	1.00	1.00	1.00
AVAILABLE WORK TIME FACTOR		0.95	0.79	0.71	0.71	0.68
PPE LABOR PRODUCTIVITY FACTOR		1	1	0.86	0.82	0.75
NET PRODUCTIVITY RATIO		0.95	0.79	0.611	0.582	0.51
NET PRODUCTIVITY MULTIPLIER		1.05	1.27	1.64	1.72	1.96

These factors were based on Tables 6.1 and 6.2, Moderate Work Efforts, 66F to 85F temperature of 'Hazardous Waste Cost Control' by R.A.Selg.
Modifications were made to reflect a 10 hour work day and no buddy system or support team for levels D, mC and C.
The worker-buddy and support team members, if required, may be covered under Construction Mgmt. (Rad Techs).

AVAILABLE WORK TIME FACTOR		D	mD	mC	C	C+
TOTAL WORK MINUTES per [5 - 10's		600	600	600	600	600
ADDITN'L SITE SAFETY MEETINGS NOT INCLD. IN BAS	QUANTITY	1	1	1	1	1
	MINUTES	25	25	25	25	25
TOTAL		25	25	25	25	25
PPE DON & DOFFING	QUANTITY	0	0	3	3	3
(ADJUST LEVEL D per WORK PLAN)	MINUTES	0	0	15	15	20
TOTAL			0	45	45	60
WORK BREAKS	QUANTITY	N/A	2	2	2	2
(ADJUST LEVEL D per WORK PLAN)	MINUTES	N/A	15	15	15	15
TOTAL			30	30	30	30
MOBILIZATION - ROUND TRIPS	QUANTITY	N/A	4	4	4	4
(ADJUST LEVEL D per WORK PLAN)	MINUTES	N/A	15	15	15	15
TOTAL			60	60	60	60
COOLDOWNS PER DAY	QUANTITY	2	3	4	4	4
** (2 OUT OF 8 MONTHS) 25.00%	MINUTES	10	12	15	15	15
TOTAL		5	9	15	15	15
AIR TANK REPLACEMENT	QUANTITY	N/A	N/A	N/A	N/A	N/A
	MINUTES	N/A	N/A	N/A	N/A	N/A
TOTAL						
AVAILABLE WORK TIME		570	476	425	425	410
AVAILABLE WORK TIME FACTOR		0.95	0.79	0.71	0.71	0.68

NOTE: Adjust 'Work Minutes per Day' basis to: 5 - 8's, or leave as 4 - 10's. Any other circumstances, over-ride the minutes per day.

** Assumption based on work performed in May, June, July & August, pro-rating cost over one year. Adjust % to individual circumstances. Changed to July & August over an 8 mth period.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY04
ESTIMATE NO. C2 -01-05-01-C4
CLIENT: DOE
WBS NO.: 1.1.C

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

PPE"s - PERSONAL PROTECTIVE EQUIPMENT

DESCRIPTION	UNIT	UNIT COST	* NO. OF CHANGE OUTS PER WORKER PER DAY				
			Man Days (TOTAL HOURS worked in PPE's Div. by WORK HOURS / DAY)				
PPE LEVEL C / C+ / B : F/HF MASK w/RESP.&CART.			*	MAN DAYS	MAT'L.$'s	PPE LEVEL	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	(DOUBLE PPE)
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	C / C+	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	C / C+	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	C / C+	
APR CARTRIDGES - DISPOSABLE	PR	$6.98	3	0	$0	C / C+	
SUB-TOTAL		$17.42	3		$0		
				$/MD =	$0.00		

PPE LEVEL mC : FULL DRESS w/ FACE SHIELD				MAN DAYS	MAT'L.$'s	PPE LEVEL
LT.WT. DISPOSABLE COVERALLS W/HOOD & BOOTIE	PR	$4.46	3	0	$0	mC
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	mC
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	mC
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	mC
SUB-TOTAL		$5.98	3		$0	
				$/MD =	$0.00	

SUBCONTRACTOR REQUIRED PURCHASES			QTY. PER WKR.	NO. OF WORKERS	MAT'L.$'s	PPE LEVEL
RUBBER BOOT COVERS-(1)PR.PER WORKER	PR	$12.70	2	8	$203	D/C/B
APR w/HALF FACE MASK - (1) PER WORKER	EA	$22.30	6	0	$0	C
APR w/FULL FACE MASK - (1) PER WORKER	EA	$174.00	6	0	$0	C
SCBA	EA	$1,894.00	2	0	$0	B
COOL VESTS	EA	$137.50	6	0	$0	C/B
THERMO STRIPS	EA	$50.00	6	0	$0	C/B
SUB-TOTAL					$200	

	MAT'L.$'s
TOTAL PPE's =	$200

(FORWARD TO PAGE 2 OF 2)

OTHER PPE's SUCH AS HARD HAT, SAFETY GLASSES/GOGGLES, STEEL TOED SAFETY SHOES, HEARING PROTECTION, ARE CONSIDERED THE SUBCONTRACTORS RESPONSIBILITY AND ARE COVERED IN HIS OVERHEAD EXPENSE.
COSTS OF FD FERNALD SUPPLIED PPE's, SUCH AS COTTON COVERALLS, EXCHANGE OF RUBBER BOOT COVERS AND RESPIRATORS FOR CHANGEOUTS AND CLEANING OF SAME IS INCURRED BY FD FERNALD AND COSTS ARE NOT INCLUDED AS PART OF PROJECT COSTS AT THIS TIME.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY04
ESTIMATE NO. C2 -01-05-01-C4
CLIENT: DOE
WBS NO.: 1.1.C

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

--MEDICAL MONITORING --

MEDICAL - PHYSICAL and IN-VIVO MONITORING - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION PHYSICAL (3hrs), IN-VIVO (1hr)	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $
BASELINE PHYSICALS	1	4	0	0	$27.60	$0
ANNUAL PHYSICALS	0	4	0	0	$27.60	$0
EXIT (TERMINATION) PHYSICALS (IN-VIVO)	1	1	0	0	$27.60	$0
SUB-TOTAL						$0

RADIATION IN-VITRO SURVEILLANCE - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $
BI-MONTHLY BIOASSAY	6	1	0	0	$27.60	$0
SUB-TOTAL						$0

RANDOM DRUG TESTING

	TESTS	HRS	TOTAL HOURS	AVG. RATE	LABOR $'s
	14	2	28	$27.60	$800

NO. OF WKRS. TESTED	TESTING DAYS PER YR.	AVG. NO. OF TESTS PER DAY	CHANCE/ DAY FOR TEST	NO. OF WKRS. FOR THIS ESTIMATE	CHANCES /DAY FOR TEST FOR PROJECT	CONSTR WORKING DAYS
2340	226	10	0.0042735	25	0.1068	127

		LABOR $'s THRU SAFETY	LABOR $'s
WORK DELAYS CAUSED BY MONITORING	0.5%	$448,610	$2,200
			LABOR $'s
WORK DELAYS CAUSED BY RAD CHECKING	0.5%	$448,610	$2,200

	TOTAL LABOR	TOTAL MAT'L.	GRAND TOTAL
TOTAL HEALTH PHYSICS	$5,200	$200	$5,400

(FORWARD TO ESTIMATE SUMMARY SHEET)

ACTIVITY DURATIONS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY04
ESTIMATE NO. C2 -01-05-01-C4
CLIENT: DOE
WBS NO.: 1.1.C

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION	Days per Schedule	
						Each Year		
Monitoring Well	04-May-01	15-Aug-03	07-Sep-03	30-Sep-03	1.5	MONTHS	32	15.1%
Liner		01-Apr-04	11-Jul-04	21-Oct-04	6.7	MONTHS	142	66.6%
Video & Demob		04-Nov-04	02-Dec-04	30-Dec-04	1.8	MONTHS	36	18.4%
TOTAL					10.0	MONTHS		
					10.0		210	

	DATE of EST. to MID-POINT ACTIVITY DURATION	
a.	28.2	MONTHS
b.	1261	MONTHS

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION
OPERATIONS					0	MONTHS

DATE of EST. to MID-POINT ACTIVITY DURATION	
0	MONTHS

ACTIVITY DURATION IS USED IN DETERMINING NUMBER of WORKERS for CERCLA/SAT TRAINING HOURS and HEALTH PHYSICS COSTS.

ESTIMATE SUMMARY SHEET

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY05
ESTIMATE #: C2-01-05-01-C5
CLIENT: DOE
WBS #: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	EQUIP. $	TOTAL $
Insurance & Bond for this FY is included in FY 04							
Insurance/Bond							
Submittals	133		$6,530				$6,530
Overhead and Profit				$55,840			$55,840
Mobilization				$3,650	$100		$3,750
Video				$10,000			$10,000
Misc Activities	1,380		$32,890	$2,500	$29,250	$65,860	$130,500
Dust Control / Moisture Conditioning	299		$6,840			$14,970	$21,810
Demobilization	187		$4,420				$4,420
Survey				$12,490			$12,490
Project Staffing	1,079		$35,190				$35,190
DIRECT FIELD COSTS TOTAL	**3,079**	**$27.89**	**$85,870**	**$84,480**	**$29,350**	**$80,830**	**$280,530**
SUPERVISION - CONTRACTOR							
SMALL TOOLS & CONSUMABLES	-	-	-		$1,200		$1,200
MISC. EQUIP. RENTAL	-	-	-			$4,400	$4,400
TEMPORARY FACILITIES incl w/Mobilization							
TEMPORARY UTILITY HOOK-UP incl w/Mobilzation							
JOB CLEAN-UP incl w/Job Close-out							
PER DIEM / SUBSISTANCE	-	-	-				
HEALTH PHYSICS S/C incl w/Submittals							
CERCLA - TRAINING incl w/Submittals							
GET/SITE ACCESS & JOB SPECIFIC TRAINING w/su							
PAYROLL BURDENS & BENEFITS	-	-	$48,900				$48,900
OVERHEAD & PROFIT	-	-	-				
BOND	-	-	-				
SALES TAX	-	-	-		$1,800	$5,100	$6,900
INDIRECT FIELD COSTS TOTAL			**$48,900**		**$3,000**	**$9,500**	**$61,400**
DIRECT & INDIRECT FIELD COSTS TOTAL	**3,079**	**$43.77**	**$134,770**	**$84,480**	**$32,350**	**$90,330**	**$341,930**
TARGET ESTIMATE			**(FY 01 DOLLARS)**				**$341,900**

ESTIMATE PERFORMED BY ESTIMATING SERVICES

ESTIMATE SUMMARY SHEET

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY(

DATE: 17-May-01

ESTIMATE NO. C2-01-05-01-C5

FACTORS

ESTIMATOR: RIS

CLIENT: DOE

LOCATION: FERNALD

WBS NO.: 1.1.C.D

TASK NO.: CCPLC

FIXED PRICE $	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
DFC DOLLARS	$85,870	$84,480	$29,350	$80,830		$280,530
IFC COST FACTOR	1.5695	--	1.0409	1.0544	--	
BOND + OVERHEAD & PROFIT COST FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	
SALES TAX	-	-	1.0600	1.0600	1.0600	
DIRECT FIELD COST FACTOR =	1.5695	1.0000	1.1033	1.1177	1.0600	
BASE ESTIMATE $'S	$134,770	$84,480	$32,383	$90,344		$341,977
BASE FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	
TARGET ESTIMATE FACTOR	1.5695	1.0000	1.1033	1.1177	1.0600	
FPS TARGET ESTIMATE (FY00 $)	$134,770	$84,480	$32,383	$90,344		$341,977

NOTE:

IF THERE ARE NO DFC EQUIP. $, ENTER THE IFC EQUIP. $'S INTO THE DIRECT FIELD COST TOTAL AND DELETE IFC FACTOR IN G65.

ESTIMATE SUMMARY SHEET

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FYI
DATE: 17-May-01
ESTIMATE NO. C2-01-05-01-C5
ESTIMATOR: RIS
CLIENT: DOE
LOCATION: FERNALD
WBS NO.: 1.1.C.D
TASK NO.: CCPLC

DIRECT FIELD COST W/FACTORS

PAY ITEM NO.	DESCRIPTION	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
		(ASSIGN OR PRORATE PPE MAT'L.$'S)-->>					
	Insurance & Bond for this FY is includ						
	Insurance/Bond						
	Submittals	6530					
		$10,250					$10,250
	Overhead and Profit		55840				
			$55,840				$55,840
	Mobilization		3650	100			
			$3,650	$110			$3,760
	Video		10000				
			$10,000				$10,000
	Misc Activities	32890	2500	29250	65860		
		$51,620	$2,500	$32,270	$73,610		$160,000
	Dust Control / Moisture Conditioning	6840			14970		
		$10,740			$16,730		$27,470
	Demobilization	4420					
		$6,940					$6,940
	Survey		12490				
			$12,490				$12,490
	Project Staffing	35190					
		$55,230					$55,230
TOTAL DIRECT FIELD COSTS W/FACTORS		(FY01 DOLLARS)					$341,980

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY05
ESTIMATE NO.: C2-01-05-01-C5
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

ITEM NO.	SUMMARY	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST / UNIT Labor	COST / UNIT S/C	COST / UNIT Mat'l	COST / UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Insurance & Bond $9,380														
	Submittals				133						$6,530				$6,530
	Overhead and Profit											$55,840			$55,840
	Mobilization											$3,650	$100		$3,750
	Video											$10,000			$10,000
	Misc Activities				1380						$32,890	$2,500	$29,250	$65,860	$130,500
	Dust Control / Moisture Conditioning				299						$6,840			$14,970	$21,810
	Demobilization				187						$4,420				$4,420
	Survey											$12,490			$12,490
	Project Staffing				1,079						$35,190				$35,190
	Subtotal Direct Cost		LOT		3,079	$27.89					$85,870	$84,480	$29,350	$80,830	$280,530

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY05
ESTIMATE NO.: C2-01-05-01-C5
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Insurance & Bond							COST							
	Performance bond 1.3%							THRU							
	Insurance 1.5%							OH & P							
	Sub-total 2.8%							335028				$9,380			$9,380
	Submittals														
D	Close-out documents	25		5	125	50.62					$6,330				$6,330
D	Health Physics				8	23.64					$200				$200
	Sub-total				133						$6,530				$6,530
	Overhead and Profit														
				20%								$55,840			$55,840

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY05
ESTIMATE NO.: C2-01-05-01-C5
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

	Mobilization	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	S/C Office Trailer 2 reqd	1.8	MO					550				$2,030			$2,030
	Heat stress / support trailers 2 reqd	1.8	MO					350				$1,290			$1,290
	Portable toilets 2 ea	1.8	MTH					85				$310			$310
	Potable water, Allow 5jug/mth, $8/jug	1.8	MTH					12	40			$20	$100		$120
	Mobilization											$3,650	$100		$3,750

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY05
ESTIMATE NO.: C2-01-05-01-C5
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

ITEM NO.	Video	QTY	UNIT	MAN-HOURS			COST/UNIT				LABOR	S/C	MAT'L	EQUIP	TOTAL
				Unit	Total	Rate	Labor	S/C	Mat'l	Equip					
D	Video	1	LOT					10000				$10,000			$10,000
	Video											10000			$10,000

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY05
ESTIMATE NO.: C2-01-05-01-C5
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

ITEM NO.	Misc Activities		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Wedges															
	Load, haul, place, compact clay															
D	2.5 operator		10	DAYS	10	250	27.03					$6,760				$6,760
D	2 laborers		10	DAYS	10	200	22.65					$4,530				$4,530
D	5 teamsters		10	DAYS	10	500	22.86					$11,430				$11,430
	Dozer, D6	10 day -	0.46	MTH							7040				$3,250	$3,250
	Excavator Cat330	10 day -	0.46	MTH							11490				$5,300	$5,300
	Sheepsfoot roller, Cat 825	10 day -	0.46	MTH							13390				$6,180	$6,180
	Truck, Volvo A30, 4 reqd	10 day -	0.46	MTH							7905				$14,590	$14,590
	Waterwagon, Cat 613	10 day -	0.46	MTH							6400				$2,950	$2,950
	Dozer, D6 @	85%		HR	85						21.87				$1,860	$1,860
	Excavator Cat330 @	85%		HR	85						32.15				$2,730	$2,730
	Sheepsfoot roller, Cat 825 @	85%		HR	85						41.55				$3,530	$3,530
	Truck, Volvo A30, 4 reqd @	85%		HR	85						27.12				$9,220	$9,220
	Waterwagon, Cat 613 @	85%		HR	85						24.10				$2,050	$2,050
	Place sacrificial geomembrane															
D	2 laborer 23000 SF		2	DAYS	10	40	22.65					$910				$910
	Access Ramp															
D	2 operator		3	DAYS	10	60	27.03					$1,620				$1,620
D	1 laborers		3	DAYS	10	30	22.65					$680				$680
D	3 teamsters		3	DAYS	10	90	22.86					$2,060				$2,060
D																
	Dozer, D6	3 day -	0.14	MTH							7040				$970	$970
	Loader Cat 966	3 day -	0.14	MTH							6820				$1,100	$1,100
	Truck, Volvo A30, 3 reqd	3 day -	0.14	MTH							7905				$3,280	$3,280
	Dozer, D6 @	85%		HR	26						21.87				$560	$560
	Loader, Cat 966 @	85%		HR	26						24.90				$630	$630
	Truck, Volvo A30, 3 reqd @	85%		HR	26						27.12				$2,070	$2,070
	Fill for ramp from on-site source, no cost		1100	CY												

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY05
ESTIMATE NO.: C2-01-05-01-C5
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

ITEM NO.	Misc Activities cont'd		QTY	UNIT	Unit	Total	Rate	COST/UNIT Labor	S/C	Mat'l	Equip			O&M	EQUIP	TOTAL
	Catchment Area															
	Granular layer #57 stone		1500	CY						19.5				$29,250		$29,250
	Geotextile by S/C		50000	SF					0.05				$2,500			$2,500
D	operator		3	DAYS	10	30	27.03					$810				$810
D	4 laborers		3	DAYS	10	120	22.65					$2,720				$2,720
D	2 teamsters		3	DAYS	10	60	22.86					$1,370				$1,370
	Dozer, D6 LGP	3 day -	0.14	MTH							8245				$1,140	$1,140
	Truck, Volvo A30, 2 reqd	3 day -	0.14	MTH							7905				$2,190	$2,190
	Dozer, D6 LGP @	85%		HR	26						24.76				$630	$630
	Truck, Volvo A30, 2 reqd @	85%		HR	30						27.12				$1,630	$1,630
	Misc Activities				1,380		$23.83					$32,890	$2,500	$29,250	$65,860	$130,500

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY05
ESTIMATE NO.: C2-01-05-01-C5
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

ITEM NO.	Dust Control / Moisture Conditioning	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
D	Teamster 1.8 mth	30	DAYS	10	299	22.86					$6,840				$6,840
	Water wagon Cat 613	1.4	MTH							6400				$8,840	$8,840
	Water wagon Cat 613 active 85%		HR	254						24.10				$6,130	$6,130
	Note: 75% for liner & 25% for borrow area for 1.8 months														
	Dust Control / Moisture Conditioning	1	LOT		299	$22.85					$6,840			$14,970	$21,810

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY05
ESTIMATE NO.: C2-01-05-01-C5
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

ITEM NO.	Demobilization	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
D	Demob contractor equipment	25	EA	3	87	23.64					$2,060				$2,060
D	Punchlist - Allowance	1	LOT	100	100	23.64					$2,360				$2,360
	Demobilization	1	LOT		187	$23.64					$4,420				$4,420

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY05
ESTIMATE NO.: C2-01-05-01-C5
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

ITEM NO.	Survey	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
D	Survey 1.8 MTH							68000				$12,490			$12,490
	Survey											$12,490			$12,490

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY05
ESTIMATE NO.: C2-01-05-01-C5
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

ITEM NO.			QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Project Staffing															
			percent													
D	Project Manager	1.8 mth	30%	hr	1	61	54.42					$3,310				$3,310
D	General Superintendent	1.8 mth	30%	hr	1	61	37.85					$2,300				$2,300
D	Superintendent	1.8 mth	37.5%	hr	2	271	32.99					$8,940				$8,940
D	Project Engineer	1.8 mth	40%	hr	1	145	33.19					$4,800				$4,800
D	Quality Engineer	1.8 mth	37.5%	hr	2	271	28.05					$7,610				$7,610
D	Safety Engineer	1.8 mth	37.5%	hr	2	271	30.34					$8,230				$8,230
D	Office Administration	in overhead					19.31									
D	Contract Administration/ Schedu	in overhead					25.58									
D	Clerical	in overhead					14.58									
	TOTAL					1,079	32.60					$35,190				$35,190

APPENDIX " A"

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY05
ESTIMATE NOC2-01-05-01-C5
CLIENT: DOE
WBS NO.: 1.1.C.D

SITE SPECIFIC

EFFICIENCY / MULTIPLIER ANALYSIS

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

PERCENT OF INFLUENCE ON CHART MANHOURS

	40%	50%	60%	70%	80%	90%	100%	105%	110%	% OF INFLUENCE	WT'D VALUE	PROD. RESULT
CRAFT SKILL (NOTE 1)	POOR			FAIR			STD	V.GOOD	XCELLENT	90.0%	12.0%	0.108
CRAFT AVAIL.(NOTE 1)		POOR		FAIR			STD			100.0%	8.0%	0.08
CLIMATE (NOTE 2)	SEVERE	ICE/SNOW			RAIN		+40 TO +85			80.0%	20.0%	0.16
PLANT ELEVATION		OVER 10,000FT			5,000' TO 10,000 FT		UNDER 5,000 FT			100.0%	5.0%	0.05
WORK SPACE				200 SF	250 SF	300 SF	350 SF			100.0%	10.0%	0.1
WORK WEEK	<— MULTIPLE SHIFTS-					5-10s per Means R010-110				85.0%	15.0%	0.1275
50 HOUR WORK WEEK	////////// ////// MULTIPLE-SHIFT //////////	//////////	//////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS				0.0%	0.0%	0
60 HOUR WORK WEEK	//////////	//////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS					0.0%	0.0%	0
SHIFTWORK 2ND SHIFT 3RD SHIFT			 3RD SHIFT		2ND SHIFT		OR ONE SHIFT ONLY			 100.0% 100.0%	 3.0% 5.0%	 0.03 0.05
PROJECT SIZE					400M MH AND UP	300M TO 400M MH	200M TO 300M MH	200M MH OR LESS		105.0%	4.0%	0.042
PLANT TYPE				REVAMP ONLY	REVAMP & NEW	NEW IN EXIST PLT	GRASS ROOTS			95.0%	8.0%	0.076
AREA/UNION INFLUENCE	STRONG		MILD		SOME		NONE			80.0%	10.0%	0.08
											100.0%	90.4%

NOTES.....
1. TURNOVER HAS BEEN CONSIDERED

2. FOR EXTERIOR WORK ONLY

EFFICIENCY (AS A % OFF CHART MANHOURS) 90.4%

MULTIPLIER - (TO BE APPLIED TO CHART M.H.'S TO OBTAIN SITE M.H.'S) 1.11

EFFICIENCY FACTORS

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY05
ESTIMATE NO. C2-01-05-01-C5
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

EXAMPLE:

STANDARD CHART MANHOURS =	NET	100
EFFICIENCY FACTORS:		
* SITE SPECIFIC (SEE APPENDIX A)	11%	11.0
S/T = BASE UNIT MANHOURS		111
OVERTIME PRODUCTIVITY FACTOR	0.00%	0
(SEE DETAIL WORKSHEET BACK-UP)		111
* TASK SPECIFIC (confined space, high elevation, congestion, etc.)	0.0%	0
		111
* PPE SPECIFIC (Based on current data and estimating knowledge)		

	PPE LEVEL									
	D		Mod.'D'		Mod. "C"		C		C+	
PRODUCTIVITY HOURS		MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's
(AS A %) / ADD MH's	5.00%	6	27.00%	30	64.00%	71	72.00%	80	96.00%	107
(AS A MULTIPLIER)/TOTAL HRS	1.05	116.6	1.27	141	1.64	182	1.72	190.9	1.96	217.6
TOTAL MULTIPLIER w/SITE PROD.	1.1655		1.4097		1.8204		1.9092		2.1756	

NOTE : Use the Default Productivity Factor of 'mC' for working in a contaminated area if the Safety Level cannot be determined.

(SEE FD FERNALD ESTIMATING SERVICES REFERENCE MANUAL IM-6006 8.10)

Total hours worked in a specific PPE level divided by 10 hour working days = (PPE) ManDays to determine material cost of PPE's.
(SEE APPENDIX C - HEALTH PHYSICS)

12.0	Man Days	14.0	Man Days	18.0	Man Days	19.0	Man Days	22.0	Man Days

THESE EFFICIENCY FACTORS WERE APPLIED INDIVIDUALLY THROUGHOUT THE ESTIMATE AT A TASK SPECIFIC LEVEL, TO OBTAIN A MORE ACCURATE ACCOUNT OF OVERALL EFFICIENCY IMPACT DUE TO PPE REQUIREMENTS IN HANDLING CONTAMINATED AND HAZARDOUS WASTE.

EFFICIENCY FACTORS

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY05
ESTIMATE NO. C2-01-05-01-C5
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

PPE MULTIPLIER DEVELOPEMENT

		D	mD	mC	C	C+
CREW SIZE & MAKE-UP	STANDARD	7	7	7	7	7
	WORKER-BUDDY	0	0	0	0	0
	SUPPORT TEAM	0	0	0	0	0
	TOTAL CREW	7	7	7	7	7
CREW SIZE RATIO		1.00	1.00	1.00	1.00	1.00
AVAILABLE WORK TIME FACTOR		0.95	0.79	0.71	0.71	0.68
PPE LABOR PRODUCTIVITY FACTOR		1	1	0.86	0.82	0.75
NET PRODUCTIVITY RATIO		0.95	0.79	0.611	0.582	0.51
NET PRODUCTIVITY MULTIPLIER		**1.05**	**1.27**	**1.64**	**1.72**	**1.96**

These factors were based on Tables 6.1 and 6.2, Moderate Work Efforts, 66F to 85F temperature of 'Hazardous Waste Cost Control' by R.A.Selg.
Modifications were made to reflect a 10 hour work day and no buddy system or support team for levels D, mC and C.
The worker-buddy and support team members, if required, may be covered under Construction Mgmt. (Rad Techs).

AVAILABLE WORK TIME FACTOR		D	mD	mC	C	C+
TOTAL WORK MINUTES per D 5 - 10's		600	600	600	600	600
ADDITN'L SITE SAFETY MEETINGS NOT INCLD. IN BASE	QUANTITY	1	1	1	1	1
	MINUTES	25	25	25	25	25
TOTAL		25	25	25	25	25
PPE DON & DOFFING	QUANTITY	0	0	3	3	3
(ADJUST LEVEL D per WORK PLAN)	MINUTES	0	0	15	15	20
TOTAL			0	45	45	60
WORK BREAKS	QUANTITY	N/A	2	2	2	2
(ADJUST LEVEL D per WORK PLAN)	MINUTES	N/A	15	15	15	15
TOTAL			30	30	30	30
MOBILIZATION - ROUND TRIPS	QUANTITY	N/A	4	4	4	4
(ADJUST LEVEL D per WORK PLAN)	MINUTES	N/A	15	15	15	15
TOTAL			60	60	60	60
COOLDOWNS PER DAY	QUANTITY	2	3	4	4	4
** (2 OUT OF 8 MONTHS) 25.00%	MINUTES	10	12	15	15	15
TOTAL		5	9	15	15	15
AIR TANK REPLACEMENT	QUANTITY	N/A	N/A	N/A	N/A	N/A
	MINUTES	N/A	N/A	N/A	N/A	N/A
TOTAL						
AVAILABLE WORK TIME		570	476	425	425	410
AVAILABLE WORK TIME FACTOR		**0.95**	**0.79**	**0.71**	**0.71**	**0.68**

NOTE: Adjust 'Work Minutes per Day' basis to: 5 - 8's, or leave as 4 - 10's. Any other circumstances, over-ride the minutes per day.

** Assumption based on work performed in May, June, July & August, pro-rating cost over one year. Adjust % to individual circumstances. Changed to July & August over an 8 mth period.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY05
ESTIMATE NO.: C2-01-05-01-C5
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

PPE"s - PERSONAL PROTECTIVE EQUIPMENT

DESCRIPTION	UNIT	UNIT COST	* NO. OF CHANGE OUTS PER WORKER PER DAY	Man Days (TOTAL HOURS worked in PPE's Div. by WORK HOURS / DAY)			
PPE LEVEL C / C+ / B : F/HF MASK w/RESP.&CART.			*	MAN DAYS	MAT'L.$'s	PPE LEVEL	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	(DOUBLE PPE)
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	C / C+	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	C / C+	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	C / C+	
APR CARTRIDGES - DISPOSABLE	PR	$6.98	3	0	$0	C / C+	
SUB-TOTAL		$17.42	3		$0		
				$/MD =	$0.00		
PPE LEVEL mC : FULL DRESS w/ FACE SHIELD				MAN DAYS	MAT'L.$'s	PPE LEVEL	
LT.WT. DISPOSABLE COVERALLS W/HOOD & BOOTIES	PR	$4.46	3	0	$0	mC	
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	mC	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	mC	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	mC	
SUB-TOTAL		$5.98	3		$0		
				$/MD =	$0.00		
SUBCONTRACTOR REQUIRED PURCHASES			QTY. PER WKR.	NO. OF WORKERS	MAT'L.$'s	PPE LEVEL	
RUBBER BOOT COVERS-(1)PR.PER WORKER	PR	$12.70	2	0	$0	D/C/B	
APR w/HALF FACE MASK - (1) PER WORKER	EA	$22.30	6	0	$0	C	
APR w/FULL FACE MASK - (1) PER WORKER	EA	$174.00	6	0	$0	C	
SCBA	EA	$1,894.00	2	0	$0	B	
COOL VESTS	EA	$137.50	6	0	$0	C/B	
THERMO STRIPS	EA	$50.00	6	0	$0	C/B	
SUB-TOTAL					$0		

TOTAL PPE's = MAT'L.$'s $0

(FORWARD TO PAGE 2 OF 2)

OTHER PPE's SUCH AS HARD HAT, SAFETY GLASSES/GOGGLES, STEEL TOED SAFETY SHOES, HEARING PROTECTION, ARE CONSIDERED THE SUBCONTRACTORS RESPONSIBILITY AND ARE COVERED IN HIS OVERHEAD EXPENSE.
COSTS OF FD FERNALD SUPPLIED PPE's, SUCH AS COTTON COVERALLS, EXCHANGE OF RUBBER BOOT COVERS AND RESPIRATORS FOR CHANGEOUTS AND CLEANING OF SAME IS INCURRED BY FD FERNALD AND COSTS ARE NOT INCLUDED AS PART OF PROJECT COSTS AT THIS TIME.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY05
ESTIMATE NO.: C2-01-05-01-C5
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

--MEDICAL MONITORING --

MEDICAL - PHYSICAL and IN-VIVO MONITORING - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION PHYSICAL (3hrs), IN-VIVO (1hr)	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $
BASELINE PHYSICALS	1	4	0	0	$27.89	$0
ANNUAL PHYSICALS	0	4	0	0	$27.89	$0
EXIT (TERMINATION) PHYSICALS (IN-VIVO)	1	1	0	0	$27.89	$0
SUB-TOTAL						$0

RADIATION IN-VITRO SURVEILLANCE - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $
BI-MONTHLY BIOASSAY	6	1	0	0	$27.89	$0
SUB-TOTAL						$0

RANDOM DRUG TESTING

	TESTS	HRS	TOTAL HOURS	AVG. RATE	LABOR $'s
	3	2	6	$27.89	$200

NO. OF WKRS. TESTED	TESTING DAYS PER YR.	AVG. NO. OF TESTS PER DAY	CHANCE/ DAY FOR TEST	NO. OF WKRS. FOR THIS ESTIMATE	CHANCES /DAY FOR TEST FOR PROJECT	CONSTR WORKING DAYS
2340	226	10	0.004274	20	0.0855	36

		LABOR $'s THRU SAFETY	LABOR $'s
WORK DELAYS CAUSED BY MONITORING	0.5%	$79,340	$400
WORK DELAYS CAUSED BY RAD CHECKING	0.5%	$79,340	$400

	TOTAL LABOR	TOTAL MAT'L.	GRAND TOTAL
TOTAL HEALTH PHYSICS	$1,000	$0	$1,000

(FORWARD TO ESTIMATE SUMMARY SHEET)

APPENDIX "D"

ACTIVITY DURATIONS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 4 LINER CCPLC FY05
ESTIMATE NO.: C2-01-05-01-C5
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLC

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION	Days per Schedule	
						Each Year		
Monitoring Well	04-May-01	15-Aug-03	07-Sep-03	30-Sep-03	1.5	MONTHS	32	15.1%
Liner		01-Apr-04	11-Jul-04	21-Oct-04	6.7	MONTHS	142	66.6%
Video & Demob		04-Nov-04	02-Dec-04	30-Dec-04	1.8	MONTHS	36	18.4%
TOTAL					10.0	MONTHS		
					10.0		210	

	DATE of EST. to MID-POINT ACTIVITY DURATION	
a.	28.2	MONTHS
b.	1261	MONTHS

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION
OPERATIONS					0	MONTHS

DATE of EST. to MID-POINT ACTIVITY DURATION	
0	MONTHS

ACTIVITY DURATION IS USED IN DETERMINING NUMBER of WORKERS for CERCLA/SAT TRAINING HOURS and HEALTH PHYSICS COSTS.

CCPLD

OSDF CELL #4 CAP

09/07/2001
11:28 AM

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

PBS: OHFN03
WBS: 1.1.C.D
CTRL ACCT: CCPL
CHARGE NO: CCPLD
COMMENT NO N/A

DATE: 05-Sep-01
PROJECT MGR: JD Chiou
CAM: JD Chiou
PREPARED BY: W. F. Fick
FISCAL YEAR: 2007-2008

Resource: **FIELDSUB** **FIELD SUBS** **EOC:** **SUBCONTRACTORS**
Res Dept: **949** **Overtime:** **Class:** **SUB**

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Units:	0.0	0.0	0.0	0.0	0.0	0.0	3,230,091.0	981,179.0	0.0	0.0
Cum Units:	0.0	0.0	0.0	0.0	0.0	0.0	3,230,091.0	4,211,270.0	4,211,270.0	4,211,270.0
Yr Total Cost:	0	0	0	0	0	0	3,812,173	1,191,575	0	0
Cum Total Cost:	0	0	0	0	0	0	3,812,173	5,003,748	5,003,748	5,003,748

GRAND TOTALS:

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Total Cost:	0	0	0	0	0	0	3,812,173	1,191,575	0	0
Cum Total Cost:	0	0	0	0	0	0	3,812,173	5,003,748	5,003,748	5,003,748

CAM _____ CONTROL TEAM _____

INCLUDES ESCALATION COSTS

CCPLD

Fluor Fernald, Inc.

PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #2, #3, #4, #5, #6, & #7 Caps
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-05-A5 & A6
C2-2001-005-05-B6 & B7
C2-2001-005-05-D7 & D8
C2-2001-005-05-F8 & F9
C2-2001-005-05-H9 & H10
C2-2001-005-05-K9 & K10

BASIS OF ESTIMATE

SUPPORTING DOCUMENTATION:

Verbal Scope	☒	P & ID's	☐	Work Plan	☐
Drawings	☐	Equipment List	☐	Site Walk	☐
Sketches	☐	Specifications	☐	Eng. Mtg.	☒
Flow Diagrams	☐	Written Scope	☒	Estimate	☐

TYPE OF ESTIMATE:

Change Proposal	☐	Government	☐
Plan/Feasibility	☐	Conceptual	☐
Construction	☐	Title I Design	☐
Budget	☒	Independent	☐

BASIS OF ESTIMATE:

These estimates present the baseline cost for construction of the OSDF Cell caps. Each cell comprises two estimates, the earlier FY for the Bio-intrusion Barrier and the latter FY for the Filter, Vegetative Cover, and Vegetation. The included scope is from the Baseline Closure Plan and associated supporting documents. Durations are from the OSDF schedules and are presented in Appendix D. Control and Management is not included in these estimates; it is, however, included in a separate C & M estimate. Both projects are by the sub-contractor. Surveying by a three person sub-contractor crew at $140/hour is included. Both the surveying and project staffing costs are allocated among the various simultaneous OSDF projects per the OSDF documents and chart. Equipment operating costs assume an 85% operations factor unless otherwise indicated.

Fluor Fernald, Inc.
PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #2, #3, #4, #5, #6, & #7 Caps
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-05-A5 & A6
C2-2001-005-05-B6 & B7
C2-2001-005-05-D7 & D8
C2-2001-005-05-F8 & F9
C2-2001-005-05-H9 & H10
C2-2001-005-05-K9 & K10

Fluor Fernald purchases geo-synthetics (GML, Geotextile, etc.). Deployment of the geo-synthetics is by the sub-contractor. Welding and sewing is by a specialty contractor.

Fluor Fernald, Inc.
PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #2, #3, #4, #5, #6, & #7 Caps
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-05-A5 & A6
C2-2001-005-05-B6 & B7
C2-2001-005-05-D7 & D8
C2-2001-005-05-F8 & F9
C2-2001-005-05-H9 & H10
C2-2001-005-05-K9 & K10

ESTIMATE ASSUMPTIONS

EXECUTION:

- ☒ This project is to be performed on a 50-hour week, 10 hours a day.
- ☐ This project is to be performed on a 40-hour week, 8 hours a day.
- ☒ Premium time allowed.

WAGE RATES:

- ☒ Wage rates within this estimate are based on Project Labor Agreement rates, effective October 2000 and are considered FY01 dollars for estimating.
- ☐ Wage rates within this estimate are based on FF Support Contractor FSC 645 wage rates, effective January 30, 2001 and are considered FY01 dollars for estimating.
- ☐ Wage rates within this estimate are based on FF FTE Planning Labor Rates FY01.

ENGINEERING:

- ☒ N/A
- ☐ Engineering dollars provided by the Project Engineer.
- ☐ Engineering dollars have been factored in at the standard 12% of the total direct and indirect field costs as per request of Project Engineer.

CONSTRUCTION MANAGEMENT:

- ☐ N/A
- ☒ Construction Management staffing by discipline has been included.
- ☐ Construction Management dollars have been factored in at the standard 30% of the total direct and indirect field costs as per request of Project Engineer.

PROJECT MANAGEMENT:

- ☒ N/A

Fluor Fernald, Inc.
PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #2, #3, #4, #5, #6, & #7 Caps
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-05-A5 & A6
C2-2001-005-05-B6 & B7
C2-2001-005-05-D7 & D8
C2-2001-005-05-F8 & F9
C2-2001-005-05-H9 & H10
C2-2001-005-05-K9 & K10

☐ Project Management dollars provided by the Project Engineer.
☐ Project Management dollars have been factored in at the standard 30% of the total direct and indirect field costs as per request of Project Engineer.

WASTE PROGRAM MANAGEMENT:
☒ N/A
☐ Waste Program Management dollars provided by the Project Engineer.

PRODUCTIVITY:
A productivity factor has been developed and applied to the unit man-hours derived from MEANS, Richardson, NECA, and or any other published estimating source. See attachment APPENDIX "A" and APPENDIX "B".

ESCALATION:
Escalation costs are excluded from the target estimate. The escalation costs are calculated within the Micro-Frame computer system according to the plan for rebaselining.

UNIT RATES:
Unit man-hours and material dollars are based on Richardson, MEANS, NECA, National Constructor, historical data at Fernald, and or other published rates. Some man-hours and equipment requirements are provided by engineering and CM. Equipment rental rates and hourly operating costs are from the Blue Book Volume 1.

G & A (HO EXPENSE):
G & A are excluded from the target estimate. The G & A cost are calculated within the Micro-Frame computer system according to the plan for rebaselining.

Fluor Fernald, Inc.
PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #2, #3, #4, #5, #6, & #7 Caps
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-05-A5 & A6
C2-2001-005-05-B6 & B7
C2-2001-005-05-D7 & D8
C2-2001-005-05-F8 & F9
C2-2001-005-05-H9 & H10
C2-2001-005-05-K9 & K10

HEALTH PHYSICS:
See attached APPENDIX "C".

RISK BUDGET:
N/A

CONTINGENCY:
N/A

Fluor Fernald, Inc.

PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #2, #3, #4, #5, #6, & #7 Caps
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-05-A5 & A6
C2-2001-005-05-B6 & B7
C2-2001-005-05-D7 & D8
C2-2001-005-05-F8 & F9
C2-2001-005-05-H9 & H10
C2-2001-005-05-K9 & K10

ESTIMATE INCLUSIONS & EXCLUSIONS

INCLUSIONS:

- Mobilization.
- Demobilization.
- Labor hours.
- Material dollars.
- Equipment rental.
- Equipment operating.
- Contractor staffing.
- Geosynthetics purchase by FF.

EXCLUSIONS:

- Permits and fees.
- FF G & A (Home Office Expense).
- Escalation due to volatile petroleum costs.
- Any second tier subcontract costs.
- Project Management dollars.
- Waste Management dollars.
- Control & Management
- Landlord costs.

ESTIMATE SUMMARY SHEET

FLUOR FERNALD

PROJECT:	Baseline OSDF CELL #4 CAP, FY07	DATE:	17-May-01
ESTIMATE #:	C2-01-05-05-D7	ESTIMATOR:	RIS
CLIENT:	DOE	LOCATION:	FERNALD
WBS #:	1.1.C.D	TASK NO.:	CCPLD

ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	EQUIP. $	TOTAL $
Insurance & Bond				$111,560			$111,560
Submittals	2,563		$94,710		$200		$94,910
Overhead and Profit				$559,584			$559,584
Off Hours Dust Control				$20,000			$20,000
Mobilization	644		$15,340	$25,550	$71,800	$13,370	$126,060
Site Preparation	708		$16,800		$18,040	$29,980	$64,820
Contouring Layer	1,535		$35,800	$15,000		$103,350	$154,150
Clay Cap	3,695		$87,330	$5,000		$135,580	$227,910
Geosynthetics Purchase by FF					$314,460		$314,460
Install Geosynthetics	1,150		$27,610	$87,500		$20,700	$135,810
Leak Detection Testing	150		$3,600	$18,600		$1,260	$23,460
Cover Drainage Layer	1,361		$32,170		$288,000	$49,980	$370,150
Biointrusion Barrier	2,901		$68,560		$654,000	$109,250	$831,810
Survey				$54,500			$54,500
Project Staffing	2,580		$85,680				$85,680
DIRECT FIELD COSTS TOTAL	**17,287**	**$27.05**	**$467,600**	**$897,294**	**$1,346,500**	**$463,470**	**$3,174,864**
SUPERVISION - CONTRACTOR							
SMALL TOOLS & CONSUMABLES	-	-	-		$5,600		$5,600
MISC. EQUIP. RENTAL	-	-	-			$22,100	$22,100
TEMPORARY FACILITIES incl w/Mobilization							
TEMPORARY UTILITY HOOK-UP incl w/Mobilzation							
JOB CLEAN-UP incl w/Job Close-out							
PER DIEM / SUBSISTANCE	-	-	-				
HEALTH PHYSICS S/C incl w/Submittals							
CERCLA - TRAINING incl w/Submittals							
GET/SITE ACCESS & JOB SPECIFIC TRAINING w/su							
PAYROLL BURDENS & BENEFITS	-	-	$266,500				$266,500
OVERHEAD & PROFIT	-	-	-				
BOND	-	-	-				
SALES TAX	-	-	-		$81,100	$29,100	$110,200
INDIRECT FIELD COSTS TOTAL			**$266,500**		**$86,700**	**$51,200**	**$404,400**
DIRECT & INDIRECT FIELD COSTS TOTAL	**17,287**	**$42.47**	**$734,100**	**$897,294**	**$1,433,200**	**$514,670**	**$3,579,264**
TARGET ESTIMATE			**(FY 01 DOLLARS)**				**$3,579,300**

ESTIMATE PERFORMED BY ESTIMATING SERVICES

ESTIMATE SUMMARY SHEET

PROJECT: Baseline OSDF CELL #4 CAP, FY07 — DATE: 17-May-01

ESTIMATE NO. C2-01-05-05-D7 — ESTIMATOR: RIS

CLIENT: DOE — LOCATION: FERNALD

WBS NO.: 1.1.C.D — TASK NO.: CCPLD

FACTORS

FIXED PRICE $	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
DFC DOLLARS	$467,600	$897,294	$1,346,500	$463,470		$3,174,864
IFC COST FACTOR	1.5699	–	1.0042	1.0477	–	
BOND + OVERHEAD & PROFIT COST FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	
SALES TAX	-	-	1.0600	1.0600	1.0600	
DIRECT FIELD COST FACTOR =	1.5699	1.0000	1.0644	1.1105	1.0600	
BASE ESTIMATE $'S	$734,100	$897,294	$1,433,226	$514,704		$3,579,324
BASE FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	
TARGET ESTIMATE FACTOR	1.5699	1.0000	1.0644	1.1105	1.0600	
FPS TARGET ESTIMATE (FY00 $)	$734,100	$897,294	$1,433,226	$514,704		$3,579,324

NOTE:

IF THERE ARE NO DFC EQUIP. $, ENTER THE IFC EQUIP. $'S INTO THE DIRECT FIELD COST TOTAL AND DELETE IFC FACTOR IN G65.

ESTIMATE SUMMARY SHEET

PROJECT: Baseline OSDF CELL #4 CAP, FY07 | DATE: 17-May-01

ESTIMATE NO. C2-01-05-05-D7 | ESTIMATOR: RIS

DIRECT FIELD COST W/FACTORS

CLIENT: DOE | LOCATION: FERNALD

WBS NO.: 1.1.C.D | TASK NO.: CCPLD

PAY ITEM NO.	DESCRIPTION	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
		(ASSIGN OR PRORATE PPE MAT'L.$'S)–>>					
	Insurance & Bond		111560				
			$111,560				$111,560
	Submittals	94710		200			
		$148,690		$210			$148,900
	Overhead and Profit		559584				
			$559,580				$559,580
	Off Hours Dust Control		20000				
			$20,000				$20,000
	Mobilization	15340	25550	71800	13370		
		$24,080	$25,550	$76,420	$14,850		$140,900
	Site Preparation	16800		18040	29980		
		$26,370		$19,200	$33,290		$78,860
	Contouring Layer	35800	15000		103350		
		$56,200	$15,000		$114,770		$185,970
	Clay Cap	87330	5000		135580		
		$137,100	$5,000		$150,570		$292,670
	Geosynthetics Purchase by FF			314460			
				$334,710			$334,710
	Install Geosynthetics	27610	87500		20700		
		$43,350	$87,500		$22,990		$153,840
	Leak Detection Testing	3600	18600		1260		
		$5,650	$18,600		$1,400		$25,650
	Cover Drainage Layer	32170		288000	49980		
		$50,500		$306,550	$55,510		$412,560
	Biointrusion Barrier	68560		654000	109250		
		$107,630		$696,120	$121,330		$925,080
	Survey		54500				
			$54,500				$54,500
	Project Staffing	85680					
		$134,510					$134,510
TOTAL DIRECT FIELD COSTS W/FACTORS		(FY01 DOLLARS)					$3,579,290

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #4 CAP, FY07
ESTIMATE NO.: C2-01-05-05-D7
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLD

ITEM NO.	SUMMARY	QTY	UNIT	MAN-HOURS			COST / UNIT				LABOR	S/C	MAT'L	EQUIP	TOTAL
				Unit	Total	Rate	Labor	S/C	Mat'l	Equip					
	Insurance & Bond											$111,560			$111,560
	Submittals				2563						$94,710		$200		$94,910
	Overhead and Profit											$559,580			$559,580
	Mobilization				644						$15,340	$25,550	$71,800	$13,370	$126,060
	Site Preparation				708						$16,800		$18,040	$29,980	$64,820
	Survey											$54,500			$54,500
	Contouring Layer				1,535						$35,800	$15,000		$103,350	$154,150
	Clay Cap				3,695						$87,330	$5,000		$135,580	$227,910
	Geosynthetics Purchase by FF												$314,460		$314,460
	Install Geosynthetics				1,150						27,610	87,500		20,700	$135,810
	Leak Detection Testing				150						$3,600	$18,600		$1,260	$23,460
	Cover Drainage Layer				1,361						$32,170		$288,000	$49,980	$370,150
	Biointrusion Barrier				2,901						$68,560		$654,000	$109,250	$831,810
	Off Hours Dust Control											20,000			$20,000
	Project Staffing				2,580						85,680				$85,680
	Subtotal Direct Cost	1	LOT		17287	$27.05					467,600	897,290	1,346,500	463,470	$3,174,860

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #4 CAP, FY07
ESTIMATE NO.: C2-01-05-05-D7
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLD

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Insurance & Bond							COST							
	Performance bond 1.3%							THRU							
	Insurance 1.5%							OH & P							
	For both FYs Sub-total 2.8%							3357594				$111,560			$111,560
	Submittals														
D	Plans	16	EA	50	800	50.62					$40,500				$40,500
D	Technical submittals	100	EA	5	500	50.62					$25,310				$25,310
D	Site access & GET traing, cnstrct work force	25	EA	18	450	27.05					$10,560				$10,560
D	Site access & GET traing, PM, CM etc	7	EA	18	126	33.22					$2,270				$2,270
D	Site access & GET traing, surveyers & others	4	EA	18	72	75.00					$1,300				$1,300
mD	CERCLA/RAD II training, constrct work force	10	EA	25	250	27.05					$5,870				$5,870
mD	CERCLA/RAD II traing, PM, CM etc	4	EA	25	100						$2,500				$2,500
mD	CERCLA/RAD II traing, surveyers & others	4	EA	25	100	75.00					$2,500				$2,500
D	Health Physics				165	23.64					$3,900		$200		$4,100
	Sub-total				2563						$94,710		$200		$94,910
	Overhead and Profit														
				20%								$559,580			$559,580
D															
D															
D															
D															
D															
D															

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #4 CAP, FY07
ESTIMATE NO.: C2-01-05-05-D7
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLD

	Mobilization	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	S/C Office Trailer 2 reqd	8	MO					550				$8,500			$8,500
	Heat stress / support trailers 2 reqd	8	MO					350				$5,410			$5,410
D	Trailer set-up & delivery	4	LS					1,300				$5,200			$5,200
	Laydown area:														
D	#304 stone, 6" x 100,000sf	3,056	TON						12.00				$36,700		$36,700
D	10% waste, 1.5 ton/icy	11,111	SY	0.012	155	23.64				0.55	$3,660			$7,120	$10,780
D	Stabilization fabric, 6 oz/sy, (8% wast	12,000	SY	0.002	28	23.64			0.84	0.02	$660		$10,100	$280	$11,040
	Compaction testing 40 hr	1	LOT					1275				$1,280			$1,280
	Equipment fueling area:														
D	#304 stone, 8" x 30,000sf	1,223	TON						12.00				$14,700		$14,700
D	10% waste, 1.5 ton/icy	3,333	SY	0.012	47	23.64				0.55	$1,110			$2,140	$3,250
D	Stabilization fabric, 6 oz/sy, (8% wast	3,600	SY	0.002	8	23.64			0.84	0.02	$190		$3,000	$80	$3,270
	Compaction testing 20 hr	1	LOT					763				$760			$760
	Portable toilets 2 ea	8	MTH					85				$1,310			$1,310
	Potable water, Allow 5jug/mth, $8/jug	8	MTH					12	40			$90	$300		$390
D	Electric Installation Allow	1	WK		100	24.93			1050	75	$2,490		$4,300	$3,750	$10,540
	Telephone installation Allowance	1	LOT					3000				$3,000			$3,000
D	Mobilize contractor equipment	20	EA	3	70	23.64					$1,650				$1,650
D	Construction fence	1000	LF	0.078	91	23.64			$1.05		$2,150		$1,000		$3,150
D	Rad fence	1600	LF	0.078	145	23.64			$1.05		$3,430		$1,700		$5,130
	Mobilization				**644**						**15,340**	**25,550**	**71,800**	**13,370**	**$126,060**

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #4 CAP, FY07
ESTIMATE NO.: C2-01-05-05-D7
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLD

ITEM NO.	Site Preparation	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Access Corridor/Service Road														
D	a. Excavation	600	CY	0.023	16	23.64				1.42	$380			$850	$1,230
D	b. Fill	600	CY	0.017	12	23.64				0.74	$280			$440	$720
D	c. Grading	2500	SY	0.005	15	23.64				0.13	$350			$330	$680
D	d. Crushed rock, 6" thk	500	TON	0.049	29	23.64			12	1.25	$690		$6,000	$630	$7,320
D	e. Geotextile Fabric	9000	SF	0.00022	2	23.64			0.08	0.002	$50		$720	$20	$790
	Sub-total				72						$1,750		$6,720	$2,270	$10,740
	General Grading for Cap														
D	a. Excavation inc non-impctd part of haul rd	6200	CY	0.023	166	23.64				1.42	$3,920			$8,800	$12,720
D	b. Fill	2000	CY	0.017	40	23.64				0.74	$950			$1,480	$2,430
D	c. Grading	14500	SY	0.005	84	23.64				0.13	$1,990			$14,820	$16,810
	Sub-total				290						$6,860			$25,100	$31,960
D															
D															
D															
	Sub-total														
	Surface Drainage														
D	Earthwork-Trench excavation for culvert 127	141	BCY	0.053	9	23.64				1.38	$210			$230	$440
D	Pipe embedment fill, sand 27	43	TON	0.048	2	23.64			6	0.83	$60		$260	$40	$360
D	CMP culvert, 30", borrow area haul road	66	LF	0.43	33	23.64			21	0.47	$780		$1,680	$40	$2,500
D	RCP culvert, 30"class 4, contractor access road	53	LF	0.64	39	23.64			34	7.15	$920		$2,040	$440	$3,400
D	RCP culvert, 18"	50	LF	0.18	11	23.64			17	0.93	$260		$1,020	$50	$1,330
D	Rip Rap type D 249	340	TON	0.027	11	23.64			15.50	1.23	$260		$5,270	$490	$6,020
D	Silt fence	3500	LF	0.017	69	23.64			0.30		$1,630		$1,050		$2,680
	Sub-total				174						$4,120		$11,320	$1,290	$16,730
D	Dewater, 30% of duration	49	DAYS	3	172	23.64				23	$4,070			$1,320	$5,390
D															
D															
D															
	Site Preparation				**708**						**16,800**		**18,040**	**29,980**	**$64,820**

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #4 CAP, FY07
ESTIMATE NO.: C2-01-05-05-D7
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLD

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Off Hours Dust Control Allow $40,000 per year split between cell cap & cell liner	0.5	LOT					40,000				$20,000			$20,000
D	Survey 7.7 mth							140				$54,500			$54,500
	Subtotal Direct Cost	1	LOT									74,500			$74,500

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #4 CAP, FY07
ESTIMATE NO.: C2-01-05-05-D7
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLD

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Contouring Layer														
D	Remove 2 rows silt fence fr impacted layer	1	DAY	30	30	24.11				203.19	$720			$200	$920
D	Prepare eroded select impacted layer:	900	CY	0.045	42	23.64				2.29	$990			$2,060	$3,050
	(Grading & compacting)														
D	2 operators	5	DAY	20	100	27.03					$2,700				$2,700
D	2 laborer	5	DAY	20	100	22.65					$2,260				$2,260
	Dozer, D6 5 day -	0.23	MTH							7040				$1,620	$1,620
	Smooth drum roller, Cat 563 5 day -	0.23	MTH							4335				$1,000	$1,000
	Dozer, D6 @85%		HR	43						21.87				$930	$930
	Smooth drum roller, Cat 563 @85%		HR	43						15.48				$660	$660
D	Contouring layer, excav/haul fr s stkpl area	13000	CY	0.040	605	23.64				3.49	$14,300			$45,380	$59,680
D	Construct access ramp (fill) per CM														
D	3 operators	2	DAY	30	60	27.03					$1,620				$1,620
D	1 laborer	2	DAY	10	20	22.65					$450				$450
D	3 teamsters	1	DAY	30	30	22.86									
	Dozer, D6 2 day -	0.09	MTH							7040				$650	$650
	Sheepsfoot roller, Cat 825 2 day -	0.09	MTH							13390				$1,240	$1,240
	Truck, Volvo A30, 6 reqd 2 day -	0.09	MTH							7905				$4,380	$4,380
	Dozer, D6 @85%		HR	17						21.87				$2,230	$2,230
	Sheepsfoot roller, Cat 825 @ 85%		HR	17						41.55				$4,240	$4,240
	Truck, Volvo A30, 6 reqd @ 85%		HR	102						27.12				$16,600	$16,600
D	Place contouring layer	10500	CY	0.0331	348	23.64				2.11	$8,230			$22,160	$30,390
D	Rock picking, 2 laborers	10	DAY	20	200	22.65					$4,530				$4,530
D	Storm water management allowance	1	LOT					15000				$15,000			$15,000
	Contouring Layer	**1**	**LOT**		**1535**	**$23.32**					**35,800**	**15,000**		**103,350**	**$154,150**

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #4 CAP, FY07
ESTIMATE NO.: C2-01-05-05-D7
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLD

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Clay Cap														
D	Excavate clay from stockpile & load trck 28000	24839	BCY	0.017	499	23.64				0.94	$11,790			$27,300	$39,090
D	Haul from stockpile, 1.5 mile RT	24839	BCY	0.033	941	23.64				2.22	$22,240			$64,270	$86,510
D	Clay, spread w/5 cy loader	24839	BCY	0.01	289	23.64				0.83	$6,830			$24,030	$30,860
D	Clay cap, compact (Cat 815)	24839	BCY	0.040	1166	23.64				0.69	$27,560			$19,980	$47,540
D	Rock picking requires 2 laborers	8	WK	100	800	23.64					$18,910				$18,910
	Borrow area road maintenance	1	LOT					5000				$5,000			$5,000
	Clay Cap	1	LOT		3695	$23.63					87,330	5,000		135,580	$227,910

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #4 CAP, FY07
ESTIMATE NO.: C2-01-05-05-D7
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLD

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Geosynthetics Purchase by FF														
	Geomembrane, 60 mil textured (GML)	410000	SF					0.25				$102,500			$102,500
	Geomembrane, 60 mil smooth (GML)	4000	SF					0.60				$2,400			$2,400
	Geosynthetic clay cap (GCL)	410000	SF					0.40				$164,000			$164,000
	Geotextile cushion 8 oz	430000	SF					0.08				$34,400			$34,400
	Geotextile cushion 16 oz	73000	SF					0.12				$8,760			$8,760
	Welding rod	100	BOX					24.00				$2,400			$2,400
	Bentonite		BAG												
	Sub-total											$314,460			$314,460
	Install Geosynthetics														
	Receive & store, 8 days over 1 mth w/	1	LOT												
	Cat TH83 forklift	1	MTH							3765				$3,770	$3,770
D	1 operator	8	DAYS	10	80	27.03					$2,160				$2,160
D	2 laborers	8	DAYS	20	160	22.65					$3,620				$3,620
	Cat TH83 forklift oper cost @ 85%	68	HR							12.45				$850	$850
	Placement of GCL & GML incl bentonit	17	DAYS												
	Cat TH83 forklift	0.8	MTH							3765				$2,950	$2,950
	Positrac (priced as Cat 246)	0.8	MTH							2165				$1,700	$1,700
	Cat 563 smooth drum roller	0.8	MTH							4335				$3,400	$3,400
D	1 operator	17	DAYS	10	170	24.60					$4,180				$4,180
D	2 laborers	17	DAYS	20	340	23.75					$8,070				$8,070
	NOTE: Operating factor at 85%														
	Cat TH83 forklift	145	HR							12.45				$1,800	$1,800
	Positrac (priced as Cat 246)	145	HR							7.25				$1,050	$1,050
	Cat 563 smooth drum roller	145	HR							15.48				$2,610	$2,610
	Install by S/C	350000	SF					0.25				$87,500			$87,500
	Placement of Geotex	5	DAYS												
	Cat TH83 forklift	0.23	MTH							3765				$1,010	$1,010
	Positrac (priced as Cat 246)	0.23	MTH							2165				$580	$580
D	2 operators	5	DAYS	20	100	24.60					$2,460				$2,460
D	6 laborers	5	DAYS	60	300	23.75					$7,120				$7,120
	Cat TH83 forklift oper @ 85%	43	HR							12.45				$620	$620
	Positrac (priced as Cat 246) oper @	43	HR							7.25				$360	$360
	Install Geosynthetics	**1**	**LOT**		**1150**						**27,610**	**87,500**		**20,700**	**$135,810**

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #4 CAP, FY07
ESTIMATE NO.: C2-01-05-05-D7
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLD

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Leak Detection Testing														
	Leak Detection Testing	1	LOT					18600				$18,600			$18,600
	Water Management														
D	1 operator	5	DAYS	10	50	24.60					$1,230				$1,230
D	2 laborers	5	DAYS	20	100	23.75					$2,370				$2,370
	Positrac (priced as Cat 246)	0.23	MTH							2165				$500	$500
	2" pump, gas w/50ft ea suction & disch hose	0.23	MTH							441				$120	$120
	Positrac operating @ 85% factor	43	HR							12.45				$620	$620
	Pump operating @ 50% factor	25	HR							0.80				$20	$20
	Sub-total				150						$3,600	$18,600		$1,260	$23,460
	Cover Drainage Layer														
D	Drainage layer, #78 stone, 1" thk, 1pass cmpct	24,000	TON	0.049	1361	23.64			12	1.79	$32,170		$288,000	$49,980	$370,150
	Biointrusion Barrier														
D	Rip Rap type D	50,000	TON	0.046	2661	23.64			12	1.72	$62,890		$600,000	$100,230	$763,120
D	Choke stone, #1 coarse aggregate	4,500	TON	0.046	240	23.64			12	1.72	$5,670		$54,000	$9,020	$68,690
	Sub-total				2901						$68,560		$654,000	$109,250	$831,810
	Subtotal Direct Cost	**1**	**LOT**		**7463**	**$23.65**					**176,490**	**37,200**	**1,596,000**	**271,000**	**$2,080,690**

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #4 CAP, FY07
ESTIMATE NO.: C2-01-05-05-D7
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLD

ITEM NO.			QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Project Staffing		Shared percent													
D	Project Manager	7.7 mth	20%	hr	1	195	54.42					$10,590				$10,590
D	General Superintendent	7.7 mth	20%	hr	1	195	37.85					$7,370				$7,370
D	Superintendent	7.7 mth	25%	hr	2	608	32.99					$20,070				$20,070
D	Project Engineer	7.7 mth	30%	hr	1	365	33.19					$12,120				$12,120
D	Quality Engineer	7.7 mth	25%	hr	2	608	28.05					$17,070				$17,070
D	Safety Engineer	7.7 mth	25%	hr	2	608	30.34					$18,460				$18,460
D	Office Administration	in overhead					19.31									
D	Contract Administration/ Schedu	in overhead					25.58									
D	Clerical	in overhead					14.58									
	TOTAL					2,580	33.22					$85,680				$85,680

APPENDIX " A"

PROJECT: Baseline OSDF CELL #4 CAP, FY07
ESTIMATE NC C2-01-05-05-D7
CLIENT: DOE
WBS NO.: 1.1.C.D

SITE SPECIFIC

EFFICIENCY / MULTIPLIER ANALYSIS

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLD

PERCENT OF INFLUENCE ON CHART MANHOURS	40%	50%	60%	70%	80%	90%	100%	105%	110%	% OF NFLUENCE	WT'D VALUE	PROD. RESULT
CRAFT SKILL (NOTE 1)	POOR			FAIR			STD	V.GOOD	EXCELLENT	90.0%	12.0%	0.108
CRAFT AVAIL.(NOTE 1)		POOR		FAIR			STD			100.0%	8.0%	0.08
CLIMATE (NOTE 2)	SEVERE	ICE/SNOW			RAIN		+40 TO +85			80.0%	20.0%	0.16
PLANT ELEVATION		OVER 10,000FT			5,000' TO 10,000 FT		UNDER 5,000 FT			100.0%	5.0%	0.05
WORK SPACE				200 SF	250 SF	300 SF	350 SF			100.0%	10.0%	0.1
	<---- MULTIPLE SHIFTS-											
WORK WEEK						5-10s per Means R010-110				85.0%	15.0%	0.1275
50 HOUR WORK WEEK	//////////	//////////	//////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS				0.0%	0.0%	0
	//// MULTIPLE-SHIFT //////////											
60 HOUR WORK WEEK	//////////	//////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS					0.0%	0.0%	0
	//////////	//////////										
SHIFTWORK							OR					
2ND SHIFT					2ND SHIFT		ONE SHIFT			100.0%	3.0%	0.03
3RD SHIFT			3RD SHIFT				ONLY			100.0%	5.0%	0.05
PROJECT SIZE					400M MH AND UP	300M TO 400M MH	200M TO 300M MH	200M MH OR LESS		105.0%	4.0%	0.042
PLANT TYPE				REVAMP ONLY	REVAMP & NEW	NEW IN EXIST PLT	GRASS ROOTS			95.0%	8.0%	0.076
AREA/UNION INFLUENCE	STRONG		MILD		SOME		NONE			80.0%	10.0%	0.08
											100.0%	90.4%

NOTES.....
1. TURNOVER HAS BEEN CONSIDERED
2. FOR EXTERIOR WORK ONLY

EFFICIENCY (AS A % OFF CHART MANHOURS) 90.4%

MULTIPLIER - (TO BE APPLIED TO CHART M.H.'S TO OBTAIN SITE M.H.'S) 1.11

EFFICIENCY FACTORS

PROJECT: Baseline OSDF CELL #4 CAP, FY07
ESTIMATE NO. C2-01-05-05-D7
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLD

EXAMPLE:

STANDARD CHART MANHOURS =	NET	100
EFFICIENCY FACTORS:		
• SITE SPECIFIC (SEE APPENDIX A)	[redacted]	11.0
S/T = BASE UNIT MANHOURS		111
OVERTIME PRODUCTIVITY FACTOR	0.00%	0
(SEE DETAIL WORKSHEET BACK-UP)		111
• TASK SPECIFIC (confined space, high elevation, congestion, etc.)	0.0%	0
		111

• PPE SPECIFIC (Based on current data and estimating knowledge)

	PPE LEVEL									
	D		Mod.'D'		Mod. "C"		C		C+	
PRODUCTIVITY HOURS		MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's
(AS A %) / ADD MH's	5.00%	6	27.00%	30	64.00%	71	72.00%	80	96.00%	107
(AS A MULTIPLIER)/TOTAL HRS	1.05	116.6	1.27	141	1.64	182	1.72	190.9	1.96	217.6
TOTAL MULTIPLIER w/SITE PROD.	1.1655		1.4097		1.8204		1.9092		2.1756	

NOTE : Use the Default Productivity Factor of 'mC' for working in a contaminated area if the Safety Level cannot be determined.

(SEE FD FERNALD ESTIMATING SERVICES REFERENCE MANUAL IM-6006 8.10)

Total hours worked in a specific PPE level divided by 10 hour working days = (PPE) ManDays to determine material cost of PPE's.
(SEE APPENDIX C - HEALTH PHYSICS)

12.0	Man Days	14.0	Man Days	18.0	Man Days	19.0	Man Days	22.0	Man Days

THESE EFFICIENCY FACTORS WERE APPLIED INDIVIDUALLY THROUGHOUT THE ESTIMATE AT A TASK SPECIFIC LEVEL, TO OBTAIN A MORE ACCURATE ACCOUNT OF OVERALL EFFICIENCY IMPACT DUE TO PPE REQUIREMENTS IN HANDLING CONTAMINATED AND HAZARDOUS WASTE.

EFFICIENCY FACTORS

PROJECT: Baseline OSDF CELL #4 CAP, FY07
ESTIMATE NO. C2-01-05-05-D7
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLD

PPE MULTIPLIER DEVELOPEMENT

		D	mD	mC	C	C+
CREW SIZE & MAKE-UP	STANDARD	7	7	7	7	7
	WORKER-BUDDY	0	0	0	0	0
	SUPPORT TEAM	0	0	0	0	0
	TOTAL CREW	7	7	7	7	7
CREW SIZE RATIO		1.00	1.00	1.00	1.00	1.00
AVAILABLE WORK TIME FACTOR		0.95	0.79	0.71	0.71	0.68
PPE LABOR PRODUCTIVITY FACTOR		1	1	0.86	0.82	0.75
NET PRODUCTIVITY RATIO		0.95	0.79	0.611	0.582	0.51
NET PRODUCTIVITY MULTIPLIER		1.05	1.27	1.64	1.72	1.96

These factors were based on Tables 6.1 and 6.2, Moderate Work Efforts, 66F to 85F temperature of 'Hazardous Waste Cost Control' by R.A.Selg.
Modifications were made to reflect a 10 hour work day and no buddy system or support team for levels D, mC and C.
The worker-buddy and support team members, if required, may be covered under Construction Mgmt. (Rad Techs).

AVAILABLE WORK TIME FACTOR		D	mD	mC	C	C+
TOTAL WORK MINUTES per [5 - 10's		600	600	600	600	600
ADDITN'L.SITE SAFETY MEETINGS NOT INCLD. IN BAS	QUANTITY	1	1	1	1	1
	MINUTES	25	25	25	25	25
TOTAL		25	25	25	25	25
PPE DON & DOFFING	QUANTITY	0	0	3	3	3
(ADJUST LEVEL D per WORK PLAN)	MINUTES	0	0	15	15	20
TOTAL			0	45	45	60
WORK BREAKS	QUANTITY	N/A	2	2	2	2
(ADJUST LEVEL D per WORK PLAN)	MINUTES	N/A	15	15	15	15
TOTAL			30	30	30	30
MOBILIZATION - ROUND TRIPS	QUANTITY	N/A	4	4	4	4
(ADJUST LEVEL D per WORK PLAN)	MINUTES	N/A	15	15	15	15
TOTAL			60	60	60	60
COOLDOWNS PER DAY	QUANTITY	2	3	4	4	4
** (2 OUT OF 8 MONTHS) 25.00%	MINUTES	10	12	15	15	15
TOTAL		5	9	15	15	15
AIR TANK REPLACEMENT	QUANTITY	N/A	N/A	N/A	N/A	N/A
	MINUTES	N/A	N/A	N/A	N/A	N/A
TOTAL						
AVAILABLE WORK TIME		570	476	425	425	410
AVAILABLE WORK TIME FACTOR		0.95	0.79	0.71	0.71	0.68

NOTE: Adjust 'Work Minutes per Day' basis to: 5 - 8's, or leave as 4 - 10's. Any other circumstances, over-ride the minutes per day.

** Assumption based on work performed in May, June, July & August, pro-rating cost over one year. Adjust % to individual circumstances. Changed to July & August over an 8 mth period.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: Baseline OSDF CELL #4 CAP, FY07
ESTIMATE NO. C2-01-05-05-D7
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLD

PPE"s - PERSONAL PROTECTIVE EQUIPMENT

DESCRIPTION	UNIT	UNIT COST	* NO. OF CHANGE OUTS PER WORKER PER DAY				
			Man Days (TOTAL HOURS worked in PPE's Div. by WORK HOURS / DAY)				
PPE LEVEL C / C+ / B : F/HF MASK w/RESP.&CART.			*	MAN DAYS	MAT'L.$'s	PPE LEVEL	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	(DOUBLE PPE)
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	C / C+	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	C / C+	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	C / C+	
APR CARTRIDGES - DISPOSABLE	PR	$6.98	3	0	$0	C / C+	
SUB-TOTAL		$17.42	3		$0		
				$/MD =	$0.00		
PPE LEVEL mC : FULL DRESS w/ FACE SHIELD				MAN DAYS	MAT'L.$'s	PPE LEVEL	
LT.WT. DISPOSABLE COVERALLS W/HOOD & BOOTIE	PR	$4.46	3	0	$0	mC	
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	mC	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	mC	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	mC	
SUB-TOTAL		$5.98	3		$0		
				$/MD =	$0.00		
SUBCONTRACTOR REQUIRED PURCHASES			QTY. PER WKR.	NO. OF WORKERS	MAT'L.$'s	PPE LEVEL	
RUBBER BOOT COVERS-(1)PR.PER WORKER	PR	$12.70	2	8	$203	D/C/B	
APR w/HALF FACE MASK - (1) PER WORKER	EA	$22.30	6	0	$0	C	
APR w/FULL FACE MASK - (1) PER WORKER	EA	$174.00	6	0	$0	C	
SCBA	EA	$1,894.00	2	0	$0	B	
COOL VESTS	EA	$137.50	6	0	$0	C/B	
THERMO STRIPS	EA	$50.00	6	0	$0	C/B	
SUB-TOTAL					$200		

	MAT'L.$'s
TOTAL PPE's =	$200

(FORWARD TO PAGE 2 OF 2)

OTHER PPE's SUCH AS HARD HAT, SAFETY GLASSES/GOGGLES, STEEL TOED SAFETY SHOES, HEARING PROTECTION, ARE CONSIDERED THE SUBCONTRACTORS RESPONSIBILITY AND ARE COVERED IN HIS OVERHEAD EXPENSE.
COSTS OF FD FERNALD SUPPLIED PPE's, SUCH AS COTTON COVERALLS, EXCHANGE OF RUBBER BOOT COVERS AND RESPIRATORS FOR CHANGEOUTS AND CLEANING OF SAME IS INCURRED BY FD FERNALD AND COSTS ARE NOT INCLUDED AS PART OF PROJECT COSTS AT THIS TIME.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: Baseline OSDF CELL #4 CAP, FY07
ESTIMATE NO. C2-01-05-05-D7
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLD

--MEDICAL MONITORING --

MEDICAL - PHYSICAL and IN-VIVO MONITORING - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION PHYSICAL (3hrs), IN-VIVO (1hr)	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $
BASELINE PHYSICALS	1	4	0	0	$27.05	$0
ANNUAL PHYSICALS	0	4	0	0	$27.05	$0
EXIT (TERMINATION) PHYSICALS (IN-VIVO)	1	1	0	0	$27.05	$0
SUB-TOTAL						$0

RADIATION IN-VITRO SURVEILLANCE - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $
BI-MONTHLY BIOASSAY	6	1	0	0	$27.05	$0
SUB-TOTAL						$0

RANDOM DRUG TESTING

	TESTS	HRS	TOTAL HOURS	AVG. RATE	LABOR $'s
	16	2	32	$27.05	$900

NO. OF WKRS. TESTED	TESTING DAYS PER YR.	AVG. NO. OF TESTS PER DAY	CHANCE/ DAY FOR TEST	NO. OF WKRS. FOR THIS ESTIMATE	CHANCES /DAY FOR TEST FOR PROJECT	CONSTR WORKING DAYS
2340	226	10	0.0042735	25	0.1068	147

		LABOR $'s THRU SAFETY	LABOR $'s
WORK DELAYS CAUSED BY MONITORING	0.5%	$372,890	$1,900
			LABOR $'s
WORK DELAYS CAUSED BY RAD CHECKING	0.5%	$372,890	$1,900

	TOTAL LABOR	TOTAL MAT'L.	GRAND TOTAL
TOTAL HEALTH PHYSICS	$4,700	$200	$4,900

(FORWARD TO ESTIMATE SUMMARY SHEET)

ACTIVITY DURATIONS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #4 CAP, FY07
ESTIMATE NO. C2-01-05-05-D7
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLD

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION	Days per Schedule	
						Each Year		
Biointrusion	04-May-01	01-Mar-07	26-Jun-07	22-Oct-07	7.7	MONTHS	164	80.2%
Filter, Veg layer, Veg		23-Oct-07	21-Nov-07	20-Dec-07	1.9	MONTHS	40	19.8%
TOTAL					9.6	MONTHS		
					10.0		204	

	DATE of EST. to MID-POINT ACTIVITY DURATION	
a.	73.8	MONTHS
b.	1296	MONTHS

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION
OPERATIONS					0	MONTHS

DATE of EST. to MID-POINT ACTIVITY DURATION	
0	MONTHS

ACTIVITY DURATION IS USED IN DETERMINING NUMBER of WORKERS for CERCLA/SAT TRAINING HOURS and HEALTH PHYSICS COSTS.

CCPLE

OSDF CELL #5 LINER

09/07/2001
11:29 AM

PBS: OHFN03
WBS: 1.1.C.D
CTRL ACCT: CCPL
CHARGE NO: CCPLE
COMMENT NO F03-031

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

DATE: 05-Sep-01
PROJECT MGR: JD Chiou
CAM: JD Chiou
PREPARED BY: W. F. Fick
FISCAL YEAR: 2004-2006

Resource: FIELDSUB **FIELD SUBS** **EOC:** **SUBCONTRACTORS**
Res Dept: 949 **Overtime:** **Class:** **SUB**

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Units:	0.0	0.0	0.0	0.0	3,221,359.5	782,680.5	0.0	0.0	0.0	0.0
Cum Units:	0.0	0.0	0.0	0.0	3,221,359.5	4,004,040.0	4,004,040.0	4,004,040.0	4,004,040.0	4,004,040.0
Yr Total Cost:	0	0	0	0	3,590,594	897,691	0	0	0	0
Cum Total Cost:	0	0	0	0	3,590,594	4,488,285	4,488,285	4,488,285	4,488,285	4,488,285

Resource: WISE **WISE CONSTRUCTION** **EOC:** **SUBCONTRACTORS**
Res Dept: 949 **Overtime:** **Class:** **SUB**

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Units:	0.0	0.0	0.0	123,740.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Units:	0.0	0.0	0.0	123,740.0	123,740.0	123,740.0	123,740.0	123,740.0	123,740.0	123,740.0
Yr Total Cost:	0	0	0	134,167	0	0	0	0	0	0
Cum Total Cost:	0	0	0	134,167	134,167	134,167	134,167	134,167	134,167	134,167

GRAND TOTALS:

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Total Cost:	0	0	0	134,167	3,590,594	897,691	0	0	0	0
Cum Total Cost:	0	0	0	134,167	3,724,760	4,622,452	4,622,452	4,622,452	4,622,452	4,622,452

CAM _____ CONTROL TEAM _____

INCLUDES ESCALATION COSTS

CCPLE

Fluor Fernald, Inc.

PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #5 Liner
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-01-E4, E5, & E6

BASIS OF ESTIMATE

SUPPORTING DOCUMENTATION:

Verbal Scope	☒	P & ID's	☐	Work Plan	☐
Drawings	☐	Equipment List	☐	Site Walk	☐
Sketches	☐	Specifications	☐	Eng. Mtg.	☒
Flow Diagrams	☐	Written Scope	☒	Estimate	☐

TYPE OF ESTIMATE:

Change Proposal	☐	Government	☐
Plan/Feasibility	☐	Conceptual	☐
Construction	☐	Title I Design	☐
Budget	☒	Independent	☐

BASIS OF ESTIMATE:

These estimates present the baseline cost for construction of the OSDF Cell #5 liner. These three estimates comprise the Horizontal Monitoring Well FY04, Liner Placement FY05, and Video & Demobilization including close-out FY06. The included scope is from the Baseline Closure Plan and associated supporting documents. Durations are from the OSDF schedules and are presented in Appendix D. Control and Management is not included in these estimates; it is, however, included in a separate C & M estimate. Surveying by a three person sub-contractor crew at $140/hour is included. Both the surveying and project staffing costs are allocated among the various simultaneous OSDF projects per the OSDF documents and chart. Equipment operating costs assume an 85% operations factor unless otherwise indicated. Geo-synthetics (GML, Geotextile, etc.) are purchased by Fluor Fernald. Deployment of the geo-synthetics is by the sub-contractor. Welding and sewing is by a specialty contractor.

Fluor Fernald, Inc.
PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #5 Liner
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-01-E4, E5, & E6

ESTIMATE ASSUMPTIONS

EXECUTION:

- ☒ This project is to be performed on a 50-hour week, 10 hours a day.
- ☐ This project is to be performed on a 40-hour week, 8 hours a day.
- ☒ Premium time allowed.

WAGE RATES:

- ☒ Wage rates within this estimate are based on Project Labor Agreement rates, effective October 2000 and are considered FY01 dollars for estimating.
- ☐ Wage rates within this estimate are based on FF Support Contractor FSC 645 wage rates, effective January 30, 2001 and are considered FY01 dollars for estimating.
- ☐ Wage rates within this estimate are based on FF FTE Planning Labor Rates FY01.

ENGINEERING:

- ☒ N/A
- ☐ Engineering dollars provided by the Project Engineer.
- ☐ Engineering dollars have been factored in at the standard 12% of the total direct and indirect field costs as per request of Project Engineer.

CONSTRUCTION MANAGEMENT:

- ☐ N/A
- ☒ Construction Management staffing by discipline has been included.
- ☐ Construction Management dollars have been factored in at the standard 30% of the total direct and indirect field costs as per request of Project Engineer.

PROJECT MANAGEMENT:

- ☒ N/A
- ☐ Project Management dollars provided by the Project Engineer.
- ☐ Project Management dollars have been factored in at the standard 30% of the total direct and indirect field costs as per request of Project Engineer.

Fluor Fernald, Inc.

PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #5 Liner
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-01-E4, E5, & E6

WASTE PROGRAM MANAGEMENT:

☒ N/A
☐ Waste Program Management dollars provided by the Project Engineer.

PRODUCTIVITY:

A productivity factor has been developed and applied to the unit man-hours derived from MEANS, Richardson, NECA, and or any other published estimating source. See attachment APPENDIX "A" and APPENDIX "B".

ESCALATION:

Escalation costs are excluded from the target estimate. The escalation costs are calculated within the Micro-Frame computer system according to the plan for rebaselining.

UNIT RATES:

Unit man-hours and material dollars are based on Richardson, MEANS, NECA, National Constructor, historical data at Fernald, and or other published rates. Some man-hours and equipment requirements are provided by engineering and CM. Equipment rental rates and hourly operating costs are from the Blue Book Volume 1.

G & A (HO EXPENSE):

G & A are excluded from the target estimate. The G & A cost are calculated within the Micro-Frame computer system according to the plan for rebaselining.

HEALTH PHYSICS:

See attached APPENDIX "C".

RISK BUDGET:

N/A

CONTINGENCY:

N/A

Fluor Fernald, Inc.
PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #5 Liner
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-01-E4, E5, & E6

ESTIMATE INCLUSIONS & EXCLUSIONS

INCLUSIONS:

- Mobilization.
- Demobilization.
- Labor hours.
- Material dollars.
- Equipment rental.
- Equipment operating.
- Contractor staffing.
- Geosynthetics purchase by FF.

EXCLUSIONS:

- Permits and fees.
- FF G & A (Home Office Expense).
- Escalation due to volatile petroleum costs.
- Any second tier subcontract costs.
- Project Management dollars.
- Waste Management dollars.
- Control & Management
- Landlord costs.

ESTIMATE SUMMARY SHEET

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY04
ESTIMATE #: C2 -01-05-01-E4
CLIENT: DOE
WBS #: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLE

ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	EQUIP. $	TOTAL $
Submittals	25		$600		$200		$800
Overhead and Profit				$20,340			$20,340
Mobilization	12		$310				$310
Horizontal Monitoring Well	755		$20,550		$3,440	$21,770	$45,760
Survey				$9,810			$9,810
Project Staffing	590		$19,237				$19,237
DIRECT FIELD COSTS TOTAL	1,382	$29.45	$40,697	$30,150	$3,640	$21,770	$96,257
SUPERVISION - CONTRACTOR							
SMALL TOOLS & CONSUMABLES	-	-	-		$600		$600
MISC. EQUIP. RENTAL	-	-	-			$2,000	$2,000
TEMPORARY FACILITIES incl w/Mobilization							
TEMPORARY UTILITY HOOK-UP incl w/Mobilzation							
JOB CLEAN-UP incl w/Job Close-out							
PER DIEM / SUBSISTANCE	-	-	-				
HEALTH PHYSICS S/C incl w/Submittals							
CERCLA - TRAINING incl w/Submittals							
GET/SITE ACCESS & JOB SPECIFIC TRAINING w/su							
PAYROLL BURDENS & BENEFITS	-	-	$23,200				$23,200
OVERHEAD & PROFIT	-	-	-				
BOND	-	-	-				
SALES TAX	-	-	-		$300	$1,400	$1,700
INDIRECT FIELD COSTS TOTAL			$23,200		$900	$3,400	$27,500
DIRECT & INDIRECT FIELD COSTS TOTAL	1,382	$46.24	$63,897	$30,150	$4,540	$25,170	$123,757
TARGET ESTIMATE			(FY 01 DOLLARS)				$123,800

ESTIMATE PERFORMED BY ESTIMATING SERVICES

ESTIMATE SUMMARY SHEET

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY(

DATE: 17-May-01

ESTIMATE NO. C2 -01-05-01-E4

FACTORS

ESTIMATOR: RIS

CLIENT: DOE

LOCATION: FERNALD

WBS NO.: 1.1.C.D

TASK NO.: CCPLE

FIXED PRICE !	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
DFC DOLLARS	$40,697	$30,150	$3,640	$21,770		$96,257
IFC COST FACTOR	1.5701	–	1.1648	1.0919	–	
BOND + OVERHEAD & PROFIT COST FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	
SALES TAX	-	-	1.0600	1.0600	1.0600	
DIRECT FIELD COST FACTOR =	1.5701	1.0000	1.2347	1.1574	1.0600	
BASE ESTIMATE $'S	$63,897	$30,150	$4,494	$25,196		$123,738
BASE FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	
TARGET ESTIMATE FACTOR	1.5701	1.0000	1.2347	1.1574	1.0600	
FPS TARGET ESTIMATE (FY00 $)	$63,897	$30,150	$4,494	$25,196		$123,738

NOTE:

IF THERE ARE NO DFC EQUIP. $, ENTER THE IFC EQUIP. $'S INTO THE DIRECT FIELD COST TOTAL AND DELETE IFC FACTOR IN G65.

ESTIMATE SUMMARY SHEET

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY(

DATE: 17-May-01

ESTIMATE NO. C2 -01-05-01-E4

ESTIMATOR: RIS

DIRECT FIELD COST W/FACTORS

CLIENT: DOE

LOCATION: FERNALD

WBS NO.: 1.1.C.D

TASK NO.: CCPLE

PAY ITEM NO.	DESCRIPTION	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
		(ASSIGN OR PRORATE PPE MAT'L.$'S)-->>					
	Submittals	600		200			
		$940		$250			$1,190
	Overhead and Profit		20340				
			$20,340				$20,340
	Mobilization	310					
		$490					$490
	Horizontal Monitoring Well	20550		3440	21770		
		$32,260		$4,250	$25,200		$61,710
	Survey		9810				
			$9,810				$9,810
	Project Staffing	19237					
		$30,200					$30,200
TOTAL DIRECT FIELD COSTS W/FACTORS		(FY01 DOLLARS)					$123,740

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY04
ESTIMATE NO.: C2 -01-05-01-E4
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLE

ITEM NO.	SUMMARY	QTY	UNIT	MAN-HOURS			COST / UNIT				LABOR	S/C	MAT'L	EQUIP	TOTAL
				Unit	Total	Rate	Labor	S/C	Mat'l	Equip					
	Submittals				25						$600		$200		$800
	Overhead and Profit											$20,340			$20,340
	Mobilization				12						$310				$310
	Horizontal Monitoring Well				755						$20,550		$3,440	$21,770	$45,760
	Survey											$9,810			$9,810
	Project Staffing				590						$19,237				$19,237
	Subtotal Direct Cost	1	LOT		1382	$29.45					40,697	30,150	3,640	21,770	$96,257

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY04
ESTIMATE NO.: C2 -01-05-01-E4
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLE

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Insurance & Bond														
	Performance bond 1.3%							COST							
	Insurance 1.5%							THRU							
	Sub-total 2.8%							OH & P							
	Reported w/ FY 05 =							122061							
	$3,420														
	Submittals														
D	Health Physics				25	23.64					$600		$200		$800
	Sub-total				25						$600		$200		$800
	Overhead and Profit														
				20%								$20,340			$20,340

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY04
ESTIMATE NO.: C2 -01-05-01-E4
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLE

	Mobilization	QTY	UNIT	MAN-HOURS			COST/UNIT				LABOR	S/C	MAT'L	EQUIP	TOTAL
				Unit	Total	Rate	Labor	S/C	Mat'l	Equip					
	Mobilization														
D	Dozer D6	1	ea		3	27.03					$80				$80
D	Smooth drum Roller, Cat 563	1	ea		3	27.03					$80				$80
D	Excavator Cat 330	1	ea		3	27.03					$80				$80
D	Waterwagon Cat 613	1	ea		3	22.86					$70				$70
	Mobilization				12						310				$310

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY04
ESTIMATE NO.: C2 -01-05-01-E4
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLE

ITEM NO.	Horizontal Monitoring Well	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Receive HDPE pipe, geotextile, & drainage matl														
D	operator	0.5	DAY	10	5	27.03					$140				$140
D	2 laborer	0.5	DAY	10	10	22.65					$230				$230
	Forklift Cat TH83 1/2 da	0.02	MTH							3765				$90	$90
	Forklift Cat TH84 @85%		HR	8.5						12.45				$110	$110
	Install HDPE pipe, geotex, & drainage stone														
D	laborer 2 wk	10.0	DAY	10	100	22.65					$2,260				$2,260
D	2 pipefitter 2 wk	10.0	DAY	10	200	29.62					$5,920				$5,920
D	1 operator 4 wk	20.0	DAY	10	200	27.03					$5,410				$5,410
D	2 operator 2 wk	10.0	DAY	10	200	27.03					$5,410				$5,410
	Excavator Cat 330 2 wk	0.46	MTH							11490				$5,300	$5,300
	Dozer Cat D6 4 wk	0.92	MTH							7040				$6,500	$6,500
	Smooth drum roller Cat 563 2 wk	0.46	MTH							4335				$2,000	$2,000
	Excavator Cat 330 @85%	85%	HR	85						32.15				$2,730	$2,730
	Dozer, D6 @85%	85%	HR	170						21.87				$3,720	$3,720
	Smooth drum roller Cat 563	85%	HR	85						15.48				$1,320	$1,320
	Tie-in HDPE pipe to stub-outs fr valve house #4														
D	2 pipefitters	2	DAY	10	40	29.62					$1,180				$1,180
	Well casing	1	EA						100				$100		$100
	Gravel	60	TON						13				$780		$780
	Geotextile cushion, 7 oz	1,600	SF						0.06				$100		$100
	Pipe, 6" HDPE	160	LF						2.87				$460		$460
	Pipe, 6" HDPE, perf	80	LF						3.17				$250		$250
	Pipe, 10" HDPE	160	LF						7.69				$1,230		$1,230
	Tee, 6" HDPE	1	EA						66.7				$70		$70
	Tee, 6" 90 el	2	EA						56.1				$110		$110
	Bentonite	3	BAG						5				$20		$20
	12" Concrete riser pipe	20	LF						7.65				$150		$150
	12" PVC ris 20LF & 1 el	1	LOT						166				$170		$170
	Horizontal Monitoring Well				755						$20,550		$3440	$21,770	$45,760

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY04
ESTIMATE NO.: C2 -01-05-01-E4
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLE

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
D	Survey 1.4 MTH							68000				$9,810			$9,810
	Survey		LOT									$9,810			$9,810

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY04
ESTIMATE NO.: C2 -01-05-01-E4
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLE

ITEM NO.			QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Project Staffing		Shared percent													
D	Project Manager	1.4 mth	20%	hr	1	31	54.42					$1,692				$1,692
D	General Superintendent	1.4 mth	20%	hr	1	31	37.85					$1,177				$1,177
D	Superintendent	1.4 mth	25%	hr	2	139	32.99					$4,579				$4,579
D	Project Engineer	1.4 mth	40%	hr	1	111	33.19					$3,685				$3,685
D	Quality Engineer	1.4 mth	25%	hr	2	139	28.05					$3,893				$3,893
D	Safety Engineer	1.4 mth	25%	hr	2	139	30.34					$4,211				$4,211
D	Office Administration	in overhead					19.31									
D	Contract Administration/ Schedu	in overhead					25.58									
D	Clerical	in overhead					14.58									
	TOTAL					590	32.63					$19,237				$19,237

APPENDIX " A"

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY04
ESTIMATE NC C2 -01-05-01-E4
CLIENT: DOE
WBS NO.: 1.1.C.D

SITE SPECIFIC

EFFICIENCY / MULTIPLIER ANALYSIS

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLE

PERCENT OF INFLUENCE ON CHART MANHOURS

	40%	50%	60%	70%	80%	90%	100%	105%	110%	% OF NFLUENCE	WT'D VALUE	PROD. RESULT
CRAFT SKILL (NOTE 1)	POOR			FAIR			STD	V.GOOD	EXCELLENT	90.0%	12.0%	0.108
CRAFT AVAIL.(NOTE 1)		POOR		FAIR			STD			100.0%	8.0%	0.08
CLIMATE (NOTE 2)	SEVERE	ICE/SNOW			RAIN		+40 TO +85			80.0%	20.0%	0.16
PLANT ELEVATION		OVER 10,000FT			5,000' TO 10,000 FT		UNDER 5,000 FT			100.0%	5.0%	0.05
WORK SPACE				200 SF	250 SF	300 SF	350 SF			100.0%	10.0%	0.1
WORK WEEK	<---- MULTIPLE SHIFTS-					5-10s per Means R010-110				85.0%	15.0%	0.1275
60 HOUR WORK WEEK	////////// //// MULTIPLE-SHIFT ////	//////////	//////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS				0.0%	0.0%	0
60 HOUR WORK WEEK	////////// //////////	////////// //////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS					0.0%	0.0%	0
SHIFTWORK 2ND SHIFT 3RD SHIFT			 3RD SHIFT		2ND SHIFT		OR ONE SHIFT ONLY			 100.0% 100.0%	 3.0% 5.0%	 0.03 0.05
PROJECT SIZE					400M MH AND UP	300M TO 400M MH	200M TO 300M MH	200M MH OR LESS		105.0%	4.0%	0.042
PLANT TYPE				REVAMP ONLY	REVAMP & NEW	NEW IN EXIST PLT	GRASS ROOTS			95.0%	8.0%	0.076
AREA/UNION INFLUENCE	STRONG		MILD		SOME		NONE			80.0%	10.0%	0.08
											100.0%	90.4%

NOTES.....
1. TURNOVER HAS BEEN CONSIDERED
2. FOR EXTERIOR WORK ONLY

EFFICIENCY (AS A % OFF CHART MANHOURS) 90.4%

MULTIPLIER - (TO BE APPLIED TO CHART M.H.'S TO OBTAIN SITE M.H.'S) 1.11

EFFICIENCY FACTORS

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY04
ESTIMATE NO. C2 -01-05-01-E4
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLE

EXAMPLE:

STANDARD CHART MANHOURS =	NET	100
EFFICIENCY FACTORS:		
* SITE SPECIFIC (SEE APPENDIX A)	[redacted]	11.0
S/T = BASE UNIT MANHOURS		111
OVERTIME PRODUCTIVITY FACTOR	0.00%	0
(SEE DETAIL WORKSHEET BACK-UP)		111
* TASK SPECIFIC (confined space,	0.0%	0
high elevation, congestion, etc.)		111

* PPE SPECIFIC (Based on current data and estimating knowledge)

	PPE LEVEL									
	D		Mod.'D'		Mod. "C"		C		C+	
PRODUCTIVITY HOURS	-	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's
(AS A %) / ADD MH's	6.00%	7	27.00%	30	66.00%	73	74.00%	82	96.00%	107
(AS A MULTIPLIER)/TOTAL HRS	1.06	117.7	1.27	141	1.66	184.3	1.74	193.1	1.96	217.6
TOTAL MULTIPLIER w/SITE PROD.	1.1766		1.4097		1.8426		1.9314		2.1756	

NOTE : Use the Default Productivity Factor of 'mC' for working in a contaminated area if the Safety Level cannot be determined.

(SEE FD FERNALD ESTIMATING SERVICES REFERENCE MANUAL IM-6006 8.10)

Total hours worked in a specific PPE level divided by 10 hour working days = (PPE) ManDays to determine material cost of PPE's.
(SEE APPENDIX C - HEALTH PHYSICS)

12.0	Man Days	14.0	Man Days	18.0	Man Days	19.0	Man Days	22.0	Man Days

THESE EFFICIENCY FACTORS WERE APPLIED INDIVIDUALLY THROUGHOUT THE ESTIMATE AT A TASK SPECIFIC LEVEL, TO OBTAIN A MORE ACCURATE ACCOUNT OF OVERALL EFFICIENCY IMPACT DUE TO PPE REQUIREMENTS IN HANDLING CONTAMINATED AND HAZARDOUS WASTE.

EFFICIENCY FACTORS

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY04
ESTIMATE NO. C2 -01-05-01-E4
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLE

PPE MULTIPLIER DEVELOPEMENT

		D	mD	mC	C	C+
CREW SIZE & MAKE-UP	STANDARD	7	7	7	7	7
	WORKER-BUDDY	0	0	0	0	0
	SUPPORT TEAM	0	0	0	0	0
	TOTAL CREW	7	7	7	7	7
CREW SIZE RATIO		1.00	1.00	1.00	1.00	1.00
AVAILABLE WORK TIME FACTOR		0.94	0.79	0.7	0.7	0.68
PPE LABOR PRODUCTIVITY FACTOR		1	1	0.86	0.82	0.75
NET PRODUCTIVITY RATIO		0.94	0.79	0.602	0.574	0.51
NET PRODUCTIVITY MULTIPLIER		1.06	1.27	1.66	1.74	1.96

~~These factors were based on Tables 6.1 and 6.2, Moderate Work Efforts, 66F to 85F temperature of 'Hazardous Waste Cost Control' by R.A.Selg.~~
Modifications were made to reflect a 10 hour work day and no buddy system or support team for levels D, mC and C.
The worker-buddy and support team members, if required, may be covered under Construction Mgmt. (Rad Techs).

AVAILABLE WORK TIME FACTOR		D	mD	mC	C	C+
TOTAL WORK MINUTES per [5 - 10's		600	600	600	600	600
ADDITN'L SITE SAFETY MEETINGS NOT INCLD. IN BAS	QUANTITY	1	1	1	1	1
	MINUTES	25	25	25	25	25
TOTAL		25	25	25	25	25
PPE DON & DOFFING	QUANTITY	0	0	3	3	3
(ADJUST LEVEL D per WORK PLAN)	MINUTES	0	0	15	15	20
TOTAL			0	45	45	60
WORK BREAKS	QUANTITY	N/A	2	2	2	2
(ADJUST LEVEL D per WORK PLAN)	MINUTES	N/A	15	15	15	15
TOTAL			30	30	30	30
MOBILIZATION - ROUND TRIPS	QUANTITY	N/A	4	4	4	4
(ADJUST LEVEL D per WORK PLAN)	MINUTES	N/A	15	15	15	15
TOTAL			60	60	60	60
COOLDOWNS PER DAY	QUANTITY	3	3	4	4	4
** (4 OUT OF 8 MONTHS) 33.30%	MINUTES	12	12	15	15	15
TOTAL		12	12	20	20	20
AIR TANK REPLACEMENT	QUANTITY	N/A	N/A	N/A	N/A	N/A
	MINUTES	N/A	N/A	N/A	N/A	N/A
TOTAL						
AVAILABLE WORK TIME		563	473	420	420	405
AVAILABLE WORK TIME FACTOR		0.94	0.79	0.7	0.7	0.68

NOTE: Adjust 'Work Minutes per Day' basis to: 5 - 8's, or leave as 4 - 10's. Any other circumstances, over-ride the minutes per day.

** Assumption based on work performed in May, June, July & August, pro-rating cost over one year. Adjust % to individual circumstances. Changed to July & August over an 8 mth period.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY04
ESTIMATE NO. C2 -01-05-01-E4
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLE

PPE"s - PERSONAL PROTECTIVE EQUIPMENT

DESCRIPTION	UNIT	UNIT COST	* NO. OF CHANGE OUTS PER WORKER PER DAY Man Days (TOTAL HOURS worked in PPE's Div. by WORK HOURS / DAY)				
PPE LEVEL C / C+ / B : F/HF MASK w/RESP.&CART.			*	MAN DAYS	MAT'L.$'s	PPE LEVEL	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	(DOUBLE PPE)
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	C / C+	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	C / C+	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	C / C+	
APR CARTRIDGES - DISPOSABLE	PR	$6.98	3	0	$0	C / C+	
SUB-TOTAL		$17.42	3		$0		
				$/MD =	$0.00		

PPE LEVEL mC : FULL DRESS w/ FACE SHIELD				MAN DAYS	MAT'L.$'s	PPE LEVEL
LT.WT. DISPOSABLE COVERALLS W/HOOD & BOOTIE	PR	$4.46	3	0	$0	mC
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	mC
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	mC
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	mC
SUB-TOTAL		$5.98	3		$0	
				$/MD =	$0.00	

SUBCONTRACTOR REQUIRED PURCHASES			QTY. PER WKR.	NO. OF WORKERS	MAT'L.$'s	PPE LEVEL
~~RUBBER BOOT COVERS (1) PR PER WORKER~~	~~PR~~	~~$12.70~~	~~2~~	~~8~~	~~$203~~	~~D/C/B~~
APR w/HALF FACE MASK - (1) PER WORKER	EA	$22.30	6	0	$0	C
APR w/FULL FACE MASK - (1) PER WORKER	EA	$174.00	6	0	$0	C
SCBA	EA	$1,894.00	2	0	$0	B
COOL VESTS	EA	$137.50	6	0	$0	C/B
THERMO STRIPS	EA	$50.00	6	0	$0	C/B
SUB-TOTAL					$200	

	MAT'L.$'s
TOTAL PPE's =	$200

(FORWARD TO PAGE 2 OF 2)

OTHER PPE's SUCH AS HARD HAT, SAFETY GLASSES/GOGGLES, STEEL TOED SAFETY SHOES, HEARING PROTECTION, ARE CONSIDERED THE SUBCONTRACTORS RESPONSIBILITY AND ARE COVERED IN HIS OVERHEAD EXPENSE.
COSTS OF FD FERNALD SUPPLIED PPE's, SUCH AS COTTON COVERALLS, EXCHANGE OF RUBBER BOOT COVERS AND RESPIRATORS FOR CHANGEOUTS AND CLEANING OF SAME IS INCURRED BY FD FERNALD AND COSTS ARE NOT INCLUDED AS PART OF PROJECT COSTS AT THIS TIME.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY04
ESTIMATE NO. C2 -01-05-01-E4
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLE

--MEDICAL MONITORING --

MEDICAL - PHYSICAL and IN-VIVO MONITORING - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION PHYSICAL (3hrs), IN-VIVO (1hr)	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $
BASELINE PHYSICALS	1	4	0	0	$29.45	$0
ANNUAL PHYSICALS	0	4	0	0	$29.45	$0
EXIT (TERMINATION) PHYSICALS (IN-VIVO)	1	1	0	0	$29.45	$0
SUB-TOTAL						$0

RADIATION IN-VITRO SURVEILLANCE - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $
BI-MONTHLY BIOASSAY	6	1	0	0	$29.45	$0
SUB-TOTAL						$0

RANDOM DRUG TESTING

	TESTS	HRS	TOTAL HOURS	AVG. RATE	LABOR $'s
	3	2	6	$29.45	$200

NO. OF WKRS. TESTED	TESTING DAYS PER YR.	AVG. NO. OF TESTS PER DAY	CHANCE/ DAY FOR TEST	NO. OF WKRS. FOR THIS ESTIMATE	CHANCES /DAY FOR TEST FOR PROJECT	CONSTR WORKING DAYS
2340	226	10	0.0042735	25	0.1068	28

		LABOR $'s THRU SAFETY	LABOR $'s
WORK DELAYS CAUSED BY MONITORING	0.5%	$40,097	$200
			LABOR $'s
WORK DELAYS CAUSED BY RAD CHECKING	0.5%	$40,097	$200

	TOTAL LABOR	TOTAL MAT'L.	GRAND TOTAL
TOTAL HEALTH PHYSICS	$600	$200	$800

(FORWARD TO ESTIMATE SUMMARY SHEET)

ACTIVITY DURATIONS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY04
ESTIMATE NO. C2 -01-05-01-E4
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLE

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION	Days per Schedule	
						Each Year		
Monitoring Well	04-May-01	18-Aug-04	08-Sep-04	30-Sep-04	1.4	MONTHS	31	14.4%
Liner		01-Apr-05	14-Jul-05	27-Oct-05	6.9	MONTHS	147	70.1%
Video & Demob		14-Nov-05	07-Dec-05	30-Dec-05	1.5	MONTHS	31	15.4%
TOTAL					9.8	MONTHS		
					10.0		209	

	DATE of EST. to MID-POINT ACTIVITY DURATION	
a.	40.2	MONTHS
b.	1273	MONTHS

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION
OPERATIONS					0	MONTHS

DATE of EST. to MID-POINT ACTIVITY DURATION	
0	MONTHS

ACTIVITY DURATION IS USED IN DETERMINING NUMBER of WORKERS for CERCLA/SAT TRAINING HOURS and HEALTH PHYSICS COSTS.

APPENDIX "E"

TRAINING

PROJECT:	OSDF BASELINE CELL 5 LINER CCPLE FY04	DATE:	17-May-01
ESTIMATE #:	C2 -01-05-01-E4	ESTIMATOR:	RIS
CLIENT:	DOE	LOCATION:	FERNALD
WBS #:	1.1.C.D	TASK #:	CCPLE

FLUOR FERNALD

Site Access Training Requirements (RM-0055 Rev. 1 Effective: 09/30/99)

Training Requirements	Non-Hazardous	Occasional Site Worker	General Site Worker		
Access Area	Administrative Support Area	Controlled Area	Contamination Compound	Frequency	
	8 Hour	24 Hour Hazwoper	40 Hour Hazwoper		
General Employee Training	X	X	X	Annually	
Site Worker Training		X	X	One Time	
Rad. Worker I		X		Biennially	
Rad. Worker II			X	Biennially	
Respirator Training *			X	Annually	
Respirator Fit Testing *			X	Annually	
Supervised Field Experience	0 HR	8 HR	24 HR	One time →	*On the Job*
Site Worker Refresher		X	X	Annually ⇨	4 Hour
Rad. Worker I Retraining		X		Every 2 years ⇨	4 Hour
Rad. Worker II Retraining			X	Every 2 years ⇨	8 Hour

Additional Training	HRS	No. of Workers	Total Hours
Job Specific Training =	2	7	14
Fire Watch Training =	1	2	2
Lead Worker Training =	4	7	28
Lock out / Tag out Training =	8	3	24
Rigging Training =	24	4	96
Scaffold Training =	16	4	64

DURATION 10 Month(s)

Average Rate $ 29.45

Number of General Site Worker(s)	1	General Site Worker Training Cost	$1,198
Number of Occasional Site Worker(s)	1	Occasional Site Training Cost	$707
Number of Non-Hazardous Worker(s)	1	Non-Hazardous Training Cost	$236
		Additional Training Cost	$6,714
Total Training Hours	301	Total Training Cost =	$8,854

* = All employees classified as General Site Worker must initially take respirator training. The annual requirement for the repeat of training and the fit test frequency requirements are only needed by those employees that are required to wear a respirator.

ESTIMATE SUMMARY SHEET

FLUOR FERNALD

PROJECT:	**OSDF BASELINE CELL 5 LINER CCPLE FY05**	**DATE:**	**12-Sep-01**
ESTIMATE #:	**C2-01-05-01-E5**	**ESTIMATOR:**	**RIS**
CLIENT:	**DOE**	**LOCATION:**	**FERNALD**
WBS #:	**1.1.C.D**	**TASK NO.:**	**CCPLE**

ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	EQUIP. $	TOTAL $
Insurance & Bond				$108,290			$108,290
Submittals	2,626		$100,430		$200		$100,630
Overhead and Profit				$588,770			$588,770
Mobilization	70		$1,650	$3,790	$4,600		$10,040
Off Hours Dust Control				$20,000			$20,000
Survey				$47,700			$47,700
Erosion & Sed Control	60		$1,450			$1,370	$2,820
Site Preparation	2,740		$66,730		$47,270	$199,796	$313,796
Clay Liner	3,708		$89,150		$260	$182,170	$271,580
Geosynthetics Purchase by FF				$649,930			$649,930
Secondary Liner	2,775		$64,420	$87,900	$9,000	$37,460	$198,780
Primary Liner	2,400		$57,420	$271,500	$9,190	$32,360	$370,470
Secondary Drainage	1,400		$34,390		$146,100	$57,360	$237,850
Primary Drainage	1,550		$38,490		$157,220	$60,310	$256,020
Leak Detection Testing	150		$3,600	$18,600		$930	$23,130
Project Staffing	2,866		$93,500				$93,500
DIRECT FIELD COSTS TOTAL	**20,345**	**$27.09**	**$551,230**	**$1,796,480**	**$373,840**	**$571,756**	**$3,293,306**
SUPERVISION - CONTRACTOR							
SMALL TOOLS & CONSUMABLES	-	-	-		$6,800		$6,800
MISC. EQUIP. RENTAL	-	-	-			$26,600	$26,600
TEMPORARY FACILITIES incl w/Mobilization							
TEMPORARY UTILITY HOOK-UP incl w/Mobilzation							
JOB CLEAN-UP incl w/Job Close-out							
PER DIEM / SUBSISTANCE	-	-	-				
HEALTH PHYSICS S/C incl w/Submittals							
CERCLA - TRAINING incl w/Submittals							
GET/SITE ACCESS & JOB SPECIFIC TRAINING w/su							
PAYROLL BURDENS & BENEFITS	-	-	$314,200				$314,200
OVERHEAD & PROFIT	-	-	-				
BOND	-	-	-				
SALES TAX	-	-	-		$22,800	$35,900	$58,700
INDIRECT FIELD COSTS TOTAL			**$314,200**		**$29,600**	**$62,500**	**$406,300**
DIRECT & INDIRECT FIELD COSTS TOTAL	**20,345**	**$42.54**	**$865,430**	**$1,796,480**	**$403,440**	**$634,256**	**$3,699,606**
TARGET ESTIMATE			**(FY 01 DOLLARS)**				**$3,699,600**

ESTIMATE PERFORMED BY ESTIMATING SERVICES

ESTIMATE SUMMARY SHEET

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY(

DATE: 12-Sep-01

ESTIMATE NO. C2-01-05-01-E5

FACTORS

ESTIMATOR: RIS

CLIENT: DOE

LOCATION: FERNALD

WBS NO.: 1.1.C.D

TASK NO.: CCPLE

FIXED PRICE $	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
DFC DOLLARS	$551,230	$1,796,480	$373,840	$571,756		$3,293,306
IFC COST FACTOR	1.5700	--	1.0182	1.0465	--	
BOND + OVERHEAD & PROFIT COST FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	
SALES TAX	-	-	1.0600	1.0600	1.0600	
DIRECT FIELD COST FACTOR =	**1.5700**	**1.0000**	**1.0793**	**1.1093**	**1.0600**	
BASE ESTIMATE $'S	$865,430	$1,796,480	$403,478	$634,257		$3,699,646
BASE FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	
TARGET ESTIMATE FACTOR	**1.5700**	**1.0000**	**1.0793**	**1.1093**	**1.0600**	
FPS TARGET ESTIMATE (FY00 $)	$865,430	$1,796,480	$403,478	$634,257		$3,699,646

NOTE:

IF THERE ARE NO DFC EQUIP. $, ENTER THE IFC EQUIP. $'S INTO THE DIRECT FIELD COST TOTAL AND DELETE IFC FACTOR IN G65.

ESTIMATE SUMMARY SHEET

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY(
DATE: 12-Sep-01
ESTIMATE NO. C2-01-05-01-E5
ESTIMATOR: RIS
CLIENT: DOE
LOCATION: FERNALD
WBS NO.: 1.1.C.D
TASK NO.: CCPLE

DIRECT FIELD COST W/FACTORS

PAY ITEM NO.	DESCRIPTION	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
		(ASSIGN OR PRORATE PPE MAT'L.$'S)-->>					
	Insurance & Bond		108290 $108,290				$108,290
	Submittals	100430 $157,670		200 $220			$157,890
	Overhead and Profit		588770 $588,770				$588,770
	Mobilization	1650 $2,590	3790 $3,790	4600 $4,960			$11,340
	Off Hours Dust Control		20000 $20,000				$20,000
	Survev		47700 $47,700				$47,700
	Erosion & Sed Control	1450 $2,280			1370 $1,520		$3,800
	Site Preparation	66730 $104,770		47270 $51,020	199796 $221,640		$377,430
	Clay Liner	89150 $139,970		260 $280	182170 $202,080		$342,330
	Geosynthetics Purchase by FF		649930 $649,930				$649,930
	Secondary Liner	64420 $101,140	87900 $87,900	9000 $9,710	37460 $41,550		$240,300
	Primary Liner	57420 $90,150	271500 $271,500	9190 $9,920	32360 $35,900		$407,470
	Secondary Drainage	34390 $53,990		146100 $157,680	57360 $63,630		$275,300
	Primary Drainage	38490 $60,430		157220 $169,680	60310 $66,900		$297,010
	Leak Detection Testing	3600 $5,650	18600 $18,600		930 $930		$25,180
	Project Staffing	93500 $146,790					$146,790
TOTAL DIRECT FIELD COSTS W/FACTORS		(FY01 DOLLARS)					$3,699,530

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY05
ESTIMATE NO.: C2-01-05-01-E5
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 12-Sep-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLE

ITEM NO.	SUMMARY	QTY	UNIT	MAN-HOURS			COST / UNIT				LABOR	S/C	MAT'L	EQUIP	TOTAL
				Unit	Total	Rate	Labor	S/C	Mat'l	Equip					
	Insurance & Bond											$108,290			$108,290
	Submittals				2626						$100,430		$200		$100,630
	Overhead and Profit											$588,770			$588,770
	Mobilization				70						$1,650	$3,790	$4,600		$10,040
	Off Hours Dust Control											$20,000			$20,000
	Survey											$47,700			$47,700
	Erosion & Sed Control				60						$1,450			$1,370	$2,820
	Site Preparation				2,740						$66,730		$47,270	$199,796	$313,796
	Clay Liner				3,708						$89,150		$260	$182,170	$271,580
	Geosynthetics Purchase by FF											$649,930			$649,930
	Secondary Liner				2,775						$64,420	$87,900	$9,000	$37,460	$198,780
	Primary Liner				2,400						$57,420	$271,500	$9,190	$32,360	$370,470
	Secondary Drainage				1,400						$34,390		$146,100	$57,360	$237,850
	Primary Drainage				1,550						$38,490		$157,220	$60,310	$256,020
	Leak Detection Testing				150						$3,600	$18,600		$930	$23,130
	Project Staffing				2,866						$93,500				$93,500
	Subtotal Direct Cost	1	LOT		20345						$551,230	$1,796,480	$373,840	$571,756	**$3,293,306**

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY05
ESTIMATE NO.: C2-01-05-01-E5
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 12-Sep-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLE

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Insurance & Bond							COST							
	Performance bond 1.3%							THRU							
	Insurance 1.5%							OH & P							
	Sub-total 2.8%							3532615				$98,910			$98,910
	Submittals														
D	Plans	16	EA	50	800	50.62					$40,500				$40,500
D	Technical submittals	100	EA	5	500	50.62					$25,310				$25,310
D	Site access & GET traing, cnstrct work f	25	EA	18	450	23.64					$10,640				$10,640
D	Site access & GET traing, PM, CM etc	7	EA	18	126	32.63					$4,110				$4,110
D	Site access & GET traing, surveyers & c	4	EA	18	72	50.00					$3,600				$3,600
mD	CERCLA/RAD II training, constrct work	10	EA	25	250	23.64					$5,870				$5,870
mD	CERCLA/RAD II traing, PM, CM etc	4	EA	25	100	32.63					$2,500				$2,500
mD	CERCLA/RAD II traing, surveyers & oth	4	EA	25	100	46.67					$2,500				$2,500
D	Health Physics				228	23.64					$5,400		$200		$5,600
	Sub-total				2626						$100,430		$200		$100,630
	Overhead and Profit														
				20%								$588,770			$588,770
D															
D															
D															
D															
D															
D															

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY05
ESTIMATE NO.: C2-01-05-01-E5
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 12-Sep-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLE

	Mobilization	QTY	UNIT	MAN-HOURS			COST/UNIT				LABOR	S/C	MAT'L	EQUIP	TOTAL
				Unit	Total	Rate	Labor	S/C	Mat'l	Equip					
	S/C Office Trailer 2 reqd	7	MO					550				$2,520			$2,520
	Support trailer 1 reqd	7	MO					350				$800			$800
	Trailer rental & portolets spread 1/3 each														
	liner, placement, cap														
D															
D						23.64									
D						23.64									
D															
D															
D															
	Portable toilets 2 ea	7	MTH					85				$390			$390
	Potable water, Allow 5jug/mth, $8/jug	7	MTH					12	40			$80	$300		$380
D													$4,300		$4,300
D	Mobilize contractor equipment	20	EA	3	70	23.64					$1,650				$1,650
	Mobilization				70						$1,650	$3,790	$4,600		$10,040

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY05
ESTIMATE NO.: C2-01-05-01-E5
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 12-Sep-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLE

ITEM NO.	Site Preparation		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
D	Construction fence		1000	LF	0.04	40	23.64			$1.05		$950		$1,050		$2,000
D	Haul road	5 days	440	LF												
D	#304 stone		500	TON						13.05				$6,530		$6,530
	Geotex		11000	SF						0.08				$880		$880
	Fill		1000	CY						on site						
D	3 teamsters		5	DAY	10	150	22.86					$3,430				$3,430
D	3 operators		5	DAY	10	150	27.03					$4,050				$4,050
D	2 laborers		5	DAY	10	100	22.65					$2,260				$2,260
	Truck, Volvo A30, 2 reqd	5 day =	0.23	MTH							7905				$3,650	$3,650
	Sheepsfoot roller, Cat 824	5 day =	0.23	MTH							13390				$3,090	$3,090
	Loader ,Cat 966	5 day =	0.23	MTH							6820				$1,570	$1,570
	Dozer, D6	5 day =	0.23	MTH							7040				$1,620	$1,620
	Truck, Volvo A30, 2 reqd @ 85%			HR	85						27.12				$2,310	$2,310
	Sheepsfoot roller, Cat 824 @ 85%			HR	43						41.55				$1,770	$1,770
	Loader ,Cat 966 @ 85%			HR	43						24.90				$1,060	$1,060
	Dozer, D6 @ 85%			HR	43						21.87				$930	$930
	Removal of topsoil (2000cy) & excavate liner 4 (4000cy)															
D	4 teamsters		7	DAY	10	280	22.86					$6,400				$6,400
D	3 operators		7	DAY	10	210	27.03					$5,680				$5,680
	Truck, Volvo A30, 4 reqd	7 day =	0.32	MTH							7905				$10,220	$10,220
	Dozer, D8	7 day =	0.32	MTH							13145				$4,250	$4,250
	Excavator Cat330	7 day =	0.32	MTH							11490				$3,710	$3,710
	Truck, Volvo A30, 4 reqd @ 85%			HR	238						27.12				$6,450	$6,450
	Waterwagon, 1 reqd, @ 85%			HR	60						24.10				$1,430	$1,430
	Dozer, D8 @ 85%			HR	60						39.66				$2,360	$2,360
	Excavator Cat330 @ 85%			HR	60						32.15				$1,910	$1,910
	Site Preparation													$880	$6,070	$6,950

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY05
ESTIMATE NO.: C2-01-05-01-E5
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 12-Sep-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLE

ITEM NO.			QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Site Prep continued															
	Maintain liner #4 subgrade															
D	2 laborers		2	DAY	10	40	22.65					$910				$910
D	1 operator		2	DAY	10	20	27.03					$540				$540
	Dozer, D6	2 day =	0.09	MTH							7040				$650	$650
	Smooth drum roller, Cat 563	2 day =	0.09	MTH							4335				$400	$400
	3"pump w/50' ea suctn/dischr hose	2 day =	0.09	MTH							496				$50	$50
	Dozer, D6 @ 85%			HR	17						21.87				$370	$370
	Smooth drum roller, Cat 563 @ 85%			HR	17						15.48				$260	$260
	3"pump w/50' ea suctn/dischr hose @ 50%			HR	10						0.75				$10	$10
	Gravity inlet structure															
D	1. Riser, 3' ID, 4" thk RC		15	FT	0.8	14	29.03			56	77	$410		$830	$1,350	$2,590
D	2. Cap, 5' ID, 7"-8" thk RC		2	EA	3	7	29.03			918	29	$200		$1,840	$70	$2,110
D	3. Outlet piping, 12"RCP		180	FT	0.184	39	29.03			10.5	0.79	$1,120		$1,880	$170	$3,170
D	4. Excavation		1506	BCY	0.015	26	23.64				0.82	$620			$1,440	$2,060
	5. Backfill															
D	a. Embedment fill		1.0	ICY	0.053	1	23.64			19.5	0.95	$20		$20		$40
D	a. Compacted fill		1458	ICY	0.052	88	23.64				1.00	$2,090			$1,700	$3,790
	North Entrance Road Removal (2 areas)		3600	CY												
D	2 Operators		6.5	DAY	10	130	27.03					$3,510				$3,510
D	3 Teamsters		6.5	DAY	10	195	22.86					$4,460				$4,460
	Excavator Cat 330	6.5 day	0.30	MTH							11490				$4,020	$4,020
	Truck, Volvo A30, 3 reqd	6.5 day	0.30	MTH							7905				$7,120	$7,120
	Dozer, Cat D6	6.5 day	0.30	MTH							7040				$2,460	$2,460
	Excavator Cat 330 at	85%		HR	55						32.15				$1,780	$1,780
	Truck, Volvo A30, 3 reqd at	85%		HR	55						27.12				$4,500	$4,500
	Dozer, Cat D6 at	85%		HR	55						21.87				$3,620	$3,620
	Site Preparation		1	LOT										$13,910	$82,370	$96,280

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY05
ESTIMATE NO.: C2-01-05-01-E5
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 12-Sep-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLE

ITEM NO.			QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Site Prep continued															
	Remove chain link fence south of Cell #5		1500	LF												
D	4 laborers		3	DAY	10	120	22.65					$2,720				$2,720
D	1 operator		3	DAY	10	30	27.03					$810				$810
	Backhoe, Cat 416	3 day =	0.14	MTH							2800				$390	$390
	Backhoe, Cat 416 at	85%		HR	26						8.70				$222	$222
	Install chain link fence & 2 gates		2400	LF												
D	3 laborers		10	DAY	10	300	22.65					$6,790				$6,790
D	2 ironworkers		10	DAY	10	200	26.13					$5,230				$5,230
	Bobcat w/auger	10 day =	0.46	MTH							1760				$810	$810
	Backhoe, Cat 416 at	85%		HR	170						6.20				$1,054	$1,054
	Fence cost w/barbed wire		2400	LF						7.50				$18,000		$18,000
	Fence gates		2	EA						725				$1,450		$1,450
	Fill north 1/3 OSDF sed basin & revamp ditch		10000	CY	from Borrow area											
D	2.5 Operators		8	DAY	10	200	27.03					$5,410				$5,410
D	4 Teamsters		8	DAY	10	320	22.86					$7,310				$7,310
D	1 laborers		8	DAY	10	80	22.65					$1,810				$1,810
	Truck, Volvo A30, 3 reqd	8 day =	0.37	MTH							7905				$8,760	$8,760
	Dozer, Cat D6	8 day =	0.37	MTH							7040				$2,600	$2,600
	Excavator Cat 330	8 day =	0.37	MTH							11490				$4,240	$4,240
	Truck, Volvo A30, 3 reqd at	85%		HR	68						27.12				$5,530	$5,530
	Dozer, Cat D6 at	85%		HR	68						21.87				$1,490	$1,490
	Excavator Cat 330	50%		HR	68						32.15				$2,190	$2,190
	Sheepsfoot roller Cat 825	8 day =	0.37	MTH							13390				$4,940	$4,940
	Sheepsfoot roller Cat 826 at	85%		HR	68						41.55				$2,830	$2,830
			1	LOT		2,740						$66,730		$47,270	$199,796	$313,796

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY05
ESTIMATE NO.: C2-01-05-01-E5
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 12-Sep-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLE

ITEM NO.	Clay Liner		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Borrow area road maintenance															
	Included w/clay liner activity															
D	Traffic Signs @ Borrow & N Ent Road Intersctn		1	LOT	8	8	23.64			260	47	$190		$260	$50	$500
	Install & remove															
	Load Clay fr Borrow Area															
D	6 teamsters		25	DAY	10	1500	22.86					$34,290				$34,290
D	1 operator		25	DAY	10	250	27.03					$6,760				$6,760
	Truck, Volvo A30, 6 reqd	25 day	1.15	MTH							7905				$54,730	$54,730
	Waterwagon incl w/borrow area															
	Excavator Cat330	25 day	1.15	MTH							11490				$13,260	$13,260
	Truck, Volvo A30, 6 reqd @ 85%			HR	1275						27.12				$34,580	$34,580
	Excavator Cat330 @ 85%		33000 C	HR	213						32.15				$6,830	$6,830
	Place Clay 33000 CY															
D	3 operators		25	DAY	10	750	27.03					$20,270				$20,270
D	4 laborers		25	DAY	10	1000	22.65					$22,650				$22,650
	Soil stabilizer, Cat SS250	25 day		MTH							12095					
	Dozer, D8	25 day	1.15	MTH							13145				$15,170	$15,170
	Sheepsfoot roller Cat 825	25 day	1.15	MTH							13390				$15,450	$15,450
	Smooth drum roller, Cat 563	25 day		MTH							4335					
	Waterwagon, 1 reqd, @ 85%			HR							24.10					
	Soil stabilizer Cat SS250 @ 85%			HR	213						34.00				$7,230	$7,230
	Dozer, D8 @ 85%			HR	213						39.66				$8,430	$8,430
	Sheepsfoot roller Cat 825 @85%			HR	213						41.55				$8,830	$8,830
	Smooth drum roller, Cat 563 @ 50%			HR	125						15.48				$1,940	$1,940

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY05
ESTIMATE NO.: C2-01-05-01-E5
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 12-Sep-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLE

ITEM NO.	Clay Liner cont'd		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Remove excess clay															
D	2 teamsters		5	DAY	10	100	22.86					$2,290				$2,290
D	2 operator		5	DAY	10	100	27.03					$2,700				$2,700
	Dozer, D8	5 day =	0.23	MTH							13145				$3,030	$3,030
	Excavator Cat330	5 day =	0.23	MTH							11490				$2,650	$2,650
	Smooth drum roller, Cat 563	5 day =	0.23	MTH							4335				$1,000	$1,000
	Truck, Volvo A30, 2 reqd	5 day =	0.23	MTH							7905				$3,650	$3,650
	Dozer, D8 @	85%		HR	43						39.66				$1,690	$1,690
	Excavator Cat330 @	43%		HR	21						32.15				$680	$680
	Smooth drum roller, Cat 563 @	85%		HR	43						15.48				$660	$660
	Truck, Volvo A30, 2 reqd @	85%		HR	43						27.12				$2,310	$2,310
	Clay Liner					3708						$89,150		$260	$182,170	$271,580

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY05
ESTIMATE NO.: C2-01-05-01-E5
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 12-Sep-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLE

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Off Hours Dust Control Allow $40,000 per year split between cell cap & cell liner	0.5	LOT					40,000				$20,000			$20,000
D	Survey 6.9 mth							68000				$47,700			$47,700
	Subtotal Direct Cost	1	LOT									$67,700			$67,700

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY05
ESTIMATE NO.: C2-01-05-01-E5
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 12-Sep-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLE

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Erosion & Sed Control														
	Surface water mgmt & erosion control (SWM&EC)														
	Install SWM&EC														
D	1 operator	2	DAY	10	20	27.03					$540				$540
D	2 laborer	2	DAY	10	40	22.65					$910				$910
	Dozer, D6 5 day =	0.09	MTH							7040				$650	$650
	Smooth drum roller, Cat 563 5 day =	0.09	MTH							4335				$400	$400
	Dozer, D6 @85%		HR	9						21.87				$190	$190
	Smooth drum roller, Cat 563 @85%		HR	9						15.48				$130	$130
	Erosion & Sed Control	1	LOT		60						$1,450			$1,370	$2,820

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY05
ESTIMATE NO.: C2-01-05-01-E5
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 12-Sep-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLE

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Geosynthetics Purchase by FF														
	Geomembrane, 80 mil textured (GML)	770000	SF					0.30				$231,000			$231,000
	Geomembrane, 80 mil smooth (GML)	4000	SF					0.60				$2,400			$2,400
	Geomembrane, 30 mil smooth (GML)	28000	SF					0.15				$4,200			$4,200
	GCL	770000	SF					0.40				$308,000			$308,000
	Geotextile cushion 10 oz	790000	SF					0.08				$63,200			$63,200
	Geotextile cushion 16 oz	74500	SF					0.12				$8,940			$8,940
	Geotextile filter 7 oz	460000	SF					0.06				$27,600			$27,600
	Welding rod	120	BOX					24.00				$2,880			$2,880
	Bentonite 1 bag per 2250sf GCL	342	BAG					5.00				$1,710			$1,710
	Sub-total											$649,930			$649,930
		1	LOT												

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY05
ESTIMATE NO.: C2-01-05-01-E5
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 12-Sep-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLE

ITEM NO.	Secondary Liner	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Penetration Boxes														
	3 secondary	3	LOT						1619				$4,860		$4,860
D	2 pipefitters	12	DAY	10	240	29.62					$7,110				$7,110
D	2 laborers	12	DAY	10	240	22.65					$5,440				$5,440
D	1 operator	12	DAY	10	120	27.03					$3,240				$3,240
	Compactor, Wacker RS800V 2 req 12 day =	0.55	MTH							985				$1,090	$1,090
	Excavator Cat330 13 day =	0.55	MTH							11490				$6,360	$6,360
	Compactor, plate 85%		HR	102						1.80				$370	$370
	Excavator Cat330 @ 85%		HR	102						32.15				$3,280	$3,280
	Pipe material for penetration boxes														
	6" SDR-11 HDPE: need 180lf, purch in 40ft lengths	200							2.87				$570		$570
	10" SDR-11 HDPE: need 180lf, purch in 40ft lengths	200							7.69				$1,540		$1,540
	6" SDR-11 HDPE perf: need 620lf, purch in 40ft lengths	640							3.17				$2,030		$2,030
	Receive & store geosynthetics, 15 days over 2 mths (cost distributed 50% secondary & 50% primary)														
	Cat TH83 forklift	2	MTH							3765				$3,770	$3,770
D	1 operator	15	DAYS	10	75	27.03					$1,010				$1,010
D	2 laborers	15	DAYS	10	150	22.65					$1,700				$1,700
	Cat TH83 forklift oper cost @ 85%	63.75	HR							12.45				$400	$400
	Deploy GCL, GML, & geotextile	15	DAY												
D	2.5 operator	15	DAYS	10	375	27.03					$10,140				$10,140
D	10 laborers	15	DAYS	10	1500	22.65					$33,970				$33,970
	Cat TH83 forklift	0.7	MTH							3765				$2,610	$2,610
	Positrac (priced as Cat 246)	0.7	MTH							2165				$1,500	$1,500
	Cat 563 smooth drum roller	0.7	MTH							4335				$3,000	$3,000
	Cat TH83 forklift @ 85%		HR	319						12.45				$3,970	$3,970
	Positrac (priced as Cat 246) @ 85%		HR	319						7.25				$2,310	$2,310
	Cat 563 smooth drum roller @ 85%		HR	319						15.48				$4,930	$4,930

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY05
ESTIMATE NO.: C2-01-05-01-E5
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 12-Sep-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLE

ITEM NO.	Secondary Liner cont'd	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Install secondary liner by S/C														
D	GCL	325000	SF					0.07				$22,800			$22,800
D	GML	325000	SF					0.15				$48,800			$48,800
D	Geotextile cushion	325000	SF					0.05				$16,300			$16,300
	Trenching & liner terminations														
	shared 50% by secondary & primary														
D	1 operator	5	DAYS	10	25	27.03					$680				$680
D	2 laborers	5	DAYS	10	50	22.65					$1,130				$1,130
	Excavator Cat330 5 day =	0.23	MTH							11490				$2,650	$2,650
	Compactor, Wacker RS800V 2 req 5 day =	0.23	MTH							2165				$500	$500
	Excavator Cat 330 @ 85%		HR	21						32.15				$680	$680
	Compactor @ 85%		HR	21						1.80				$40	$40
	Secondary Liner				2,775						$64,420	$87,900	$9,000	$37,460	$198,780

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY05
ESTIMATE NO.: C2-01-05-01-E5
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 12-Sep-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLE

ITEM NO.	Primary Liner		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Penetration Boxes															
	2 primary		2	LOT						1619				$3,240		$3,240
D	2 pipefitters		6	DAY	10	120	29.62					$3,550				$3,550
D	2 laborers		6	DAY	10	120	22.65					$2,720				$2,720
D	1 operator		6	DAY	10	60	27.03					$1,620				$1,620
	Compactor, Wacker RS800V 2 req	6 day =	0.28	MTH							985				$550	$550
	Excavator Cat330	6 day =	0.28	MTH							11490				$3,180	$3,180
	Compactor, plate	85%		HR	51						1.80				$180	$180
	Excavator Cat330 @	85%		HR	51						32.15				$1,640	$1,640
	Deploy GCL, GML, & geotextile		15	DAY												
D	2.5 operator		15	DAYS	10	375	27.03					$10,140				$10,140
D	10 laborers		15	DAYS	10	1500	22.65					$33,970				$33,970
	Cat TH83 forklift		0.7	MTH							3765				$2,610	$2,610
	Positrac (priced as Cat 246)		0.7	MTH							2165				$1,500	$1,500
	Cat 563 smooth drum roller		0.7	MTH							4335				$3,000	$3,000
	Cat TH83 forklift @	85%		HR	319						12.45				$3,970	$3,970
	Positrac (priced as Cat 246) @	85%		HR	319						7.25				$2,310	$2,310
	Cat 563 smooth drum roller @	85%		HR	319						15.48				$4,930	$4,930
	Install secondary liner by S/C															
D	GCL		325000	SF					0.07				$168,800			$168,800
D	GML		325000	SF					0.15				$48,800			$48,800
D	Geotextile cushion		325000	SF					0.05				$16,300			$16,300
	Trenching & liner terminations															
	shared 50% by secondary & primary												$16,300			$16,300
D	1 operator		5	DAYS	10	25	27.03					$680				$680
D	2 laborers		5	DAYS	10	50	22.65					$1,130				$1,130
	Excavator Cat330	5 day =	0.23	MTH							11490				$2,650	$2,650
	Compactor, Wacker RS800V 2 req	5 day =	0.23	MTH							2165				$500	$500
	Excavator Cat 330 forklift @	85%		HR	21						32.15				$680	$680
	Compactor @	85%		HR	21						1.80				$40	$40

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY05
ESTIMATE NO.: C2-01-05-01-E5
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 12-Sep-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLE

ITEM NO.	Primary cont'd		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Place geotextile 375000 + 50000 =		425000	SF												
D	2 laborers		5	DAY	10	100	22.65					$2,260				$2,260
D	1 operator		5	DAY	10	50	27.03					$1,350				$1,350
	Compactor, Wacker RS800V 2 req	5 day =	0.23	MTH							985				$450	$450
	Excavator Cat330	5 day =	0.23	MTH							11490				$2,650	$2,650
	Compactor, plate	85%		HR	43						1.80				$150	$150
	Excavator Cat330 @	85%		HR	43						32.15				$1,370	$1,370
D	Geotextile		425000	SF					0.05				$21,300			$21,300
	Pipe material for penetration boxes															
	6" SDR-11 HDPE: need 350lf, purch in 40ft lengths		360							2.87				$1,030		$1,030
	10" SDR-11 HDPE: need 350lf, purch in 40ft lengths		360							7.69				$2,770		$2,770
	6" SDR-11 HDPE perf: need 650lf, purch in 40ft lengths		680							3.17				$2,150		$2,150
	Primary Liner		1	LOT		2,400	$23.93					$57,420	$271,500	$9,190	$32,360	$370,470

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY05
ESTIMATE NO.: C2-01-05-01-E5
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 12-Sep-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLE

ITEM NO.	Secondary Drainage		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Secondary Drainage															
D	Receive & stockpile stone, # 78		11,500	TON						12				$138,000		$138,000
D	1 operator		20	DAYS	10	200	24.60					$4,920				$4,920
D	1 laborer		20	DAYS	10	200	23.75					$4,750				$4,750
	Dozer Cat D8		0.92	MTH							13145				$12,130	$12,130
	Dozer Cat D8 @	85%		HR	170						39.66				$6,740	$6,740
	#57 stone		675	TON						12				$8,100		$8,100
	Place stone															
D	3 operator		10	DAYS	10	300	27.03					$8,110				$8,110
D	3 laborers		10	DAYS	10	300	22.65					$6,790				$6,790
D	3 teamsters		10	DAYS	10	300	22.86					$6,860				$6,860
D	2 pipefitters		5	DAYS	10	100	29.62					$2,960				$2,960
	Dozer Cat D6	2 reqd	0.46	MTH							7040				$6,500	$6,500
	Loader Cat 966		0.46	MTH							6820				$3,150	$3,150
	Cat 563 smooth drum roller		0.46	MTH							4335				$2,000	$2,000
	Dozer Cat D6 @	85%		HR	85						21.87				$3,720	$3,720
	Loader Cat 966 @	85%		HR	85						24.90				$2,120	$2,120
	Cat 563 smooth drum roller @	85%		HR	85						15.48				$1,320	$1,320
	Truck, Volvo A30, 3 reqd		0.46	MTH							7905				$12,760	$12,760
	Truck, Volvo A30 @ 85%	85%		HR	85						27.12				$6,920	$6,920
	Secondary Drainage		1	LOT		1,400	$24.56					$34,390		$146,100	$57,360	$237,850

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY05
ESTIMATE NO.: C2-01-05-01-E5
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 12-Sep-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLE

ITEM NO.	Primary Drainage	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Primary Drainage														
D	Receive & stockpile stone, # 78	11,500	TON						12				$138,000		$138,000
D	1 operator	20	DAYS	10	200	24.60					$4,920				$4,920
D	1 laborer	20	DAYS	10	200	23.75					$4,750				$4,750
	Dozer Cat D8	0.92	MTH							13145				$12,130	$12,130
	Dozer Cat D8 @ 85%		HR	170						39.66				$6,740	$6,740
	#57 stone	1602	TON						12				$19,220		$19,220
	Place stone														
D	3 operator	10	DAYS	10	300	27.03					$8,110				$8,110
D	3 laborers	10	DAYS	10	300	22.65					$6,790				$6,790
D	3 teamsters	10	DAYS	10	300	22.86					$6,860				$6,860
D	2 pipefitters	10	DAYS	10	200	29.62					$5,920				$5,920
	Dozer Cat D6 2 reqd	0.46	MTH							7040				$6,500	$6,500
	Loader Cat 966	0.46	MTH							6820				$3,150	$3,150
	Cat 563 smooth drum roller	0.46	MTH							4335				$2,000	$2,000
	Dozer Cat D6 @ 85%		HR	85						21.87				$3,720	$3,720
	Loader Cat 966 @ 85%		HR	85						24.90				$2,120	$2,120
	Cat 563 smooth drum roller @ 85%		HR	85						15.48				$1,320	$1,320
	Truck, Volvo A30, 3 reqd	0.46	MTH							7905				$12,760	$12,760
	Truck, Volvo A30 @ 85% 85%		HR	85						27.12				$6,920	$6,920
	Dust control														
D	1/2 teamster	10	DAYS	10	50	22.86					$1,140				$1,140
	Waterwagon Cat 613	0.46	MTH							6400				$2,950	$2,950
	Waterwagon Cat 613 @ 50%		HR	50						24.10					
	Primary Drainage				1,550	$24.83					$38,490		$157,220	$60,310	$256,020

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY05
ESTIMATE NO.: C2-01-05-01-E5
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 12-Sep-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLE

ITEM NO.	Leak Detection Testing	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Leak Detection Testing	1	LOT					18600				$18,600			$18,600
	Water Management														
D	1 operator	5	DAYS	10	50	24.60					$1,230				$1,230
D	2 laborers	5	DAYS	20	100	23.75					$2,370				$2,370
	Positrac (priced as Cat 246) 5 days	0.23	MTH							2165				$500	$500
	2"pump w/50' ea suctn/dischr hose 5 days	0.23	MTH							441				$100	$100
	Positrac (priced as Cat 246) @ 85%		HR	43						7.25				$310	$310
	Pump @ 50% 50%		HR	25						0.75				$20	$20
	Leak Detection Testing	1	LOT		150	$24.00					$ 3,600	$ 18,600	$ -	$ 930	23,130

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY05
ESTIMATE NO.: C2-01-05-01-E5
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 12-Sep-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLE

ITEM NO.	Dust Control / Moisture Conditioning	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
D	Teamste: 6.9 mth	112	DAYS	10	1117	22.86					$25,530				$25,530
	Water wagon Cat 613	5.2	MTH							6400				$33,000	$33,000
	Water wagon Cat 613 active 85%		HR	950						24.10				$22,880	$22,880
	Note: 75% for liner & 25% for borrow area for 6.7 months														
	Dust Control / Moisture Conditioning	1	LOT		1,117	$22.85					25,530			55,880	$81,410

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY05
ESTIMATE NO.: C2-01-05-01-E5
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 12-Sep-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLE

ITEM NO.			QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Project Staffing		Shared percent													
D	Project Manager	6.7 mth	20%	hr	1	151	54.42					$8,220				$8,220
D	General Superintendent	6.7 mth	20%	hr	1	151	37.85					$5,720				$5,720
D	Superintendent	6.7 mth	25%	hr	2	675	32.99					$22,260				$22,260
D	Project Engineer	6.7 mth	40%	hr	1	540	33.19					$17,910				$17,910
D	Quality Engineer	6.7 mth	25%	hr	2	675	28.05					$18,920				$18,920
D	Safety Engineer	6.7 mth	25%	hr	2	675	30.34					$20,470				$20,470
D	Office Administration	in overhead					19.31									
D	Contract Administration/ Schedu	in overhead					25.58									
D	Clerical	in overhead					14.58									
	TOTAL					2,866	32.63					$93,500				$93,500

APPENDIX " A"

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY05
ESTIMATE NC C2-01-05-01-E5
CLIENT: DOE
WBS NO.: 1.1.C.D

SITE SPECIFIC

EFFICIENCY / MULTIPLIER ANALYSIS

DATE: 12-Sep-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLE

PERCENT OF INFLUENCE ON CHART MANHOURS

	40%	50%	60%	70%	80%	90%	100%	105%	110%	% OF NFLUENCE	WT'D VALUE	PROD. RESULT
CRAFT SKILL (NOTE 1)	POOR			FAIR			STD	V.GOOD	EXCELLENT	90.0%	12.0%	0.108
CRAFT AVAIL.(NOTE 1)		POOR		FAIR			STD			100.0%	8.0%	0.08
CLIMATE (NOTE 2)	SEVERE	ICE/SNOW			RAIN		+40 TO +85			80.0%	20.0%	0.16
PLANT ELEVATION		OVER 10,000FT			5,000' TO 10,000 FT		UNDER 5,000 FT			100.0%	5.0%	0.05
WORK SPACE				200 SF	250 SF	300 SF	350 SF			100.0%	10.0%	0.1
	<---- MULTIPLE SHIFTS-											
WORK WEEK						5-10s per Means R010-110				85.0%	15.0%	0.1275
50 HOUR WORK WEEK	//////////	//////////	//////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS				0.0%	0.0%	0
	//// MULTIPLE-SHIFT ////////											
60 HOUR WORK WEEK	//////////	//////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS					0.0%	0.0%	0
	//////////	//////////										
SHIFTWORK							OR					
2ND SHIFT					2ND SHIFT		ONE SHIFT			100.0%	3.0%	0.03
3RD SHIFT			3RD SHIFT				ONLY			100.0%	5.0%	0.05
PROJECT SIZE					400M MH AND UP	300M TO 400M MH	200M TO 300M MH	200M MH OR LESS		105.0%	4.0%	0.042
PLANT TYPE				REVAMP ONLY	REVAMP & NEW	NEW IN EXIST PLT	GRASS ROOTS			95.0%	8.0%	0.076
AREA/UNION INFLUENCE	STRONG		MILD		SOME		NONE			80.0%	10.0%	0.08
											100.0%	90.4%

NOTES.....
1. TURNOVER HAS BEEN CONSIDERED
2. FOR EXTERIOR WORK ONLY

EFFICIENCY (AS A % OFF CHART MANHOURS) 90.4%

MULTIPLIER - (TO BE APPLIED TO CHART M.H.'S TO OBTAIN SITE M.H.'S) 1.11

EFFICIENCY FACTORS

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY05
ESTIMATE NO. C2-01-05-01-E5
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 12-Sep-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLE

EXAMPLE:

STANDARD CHART MANHOURS =	NET	100
EFFICIENCY FACTORS:		
* SITE SPECIFIC (SEE APPENDIX A)		11.0
S/T = BASE UNIT MANHOURS		111
OVERTIME PRODUCTIVITY FACTOR	0.00%	0
(SEE DETAIL WORKSHEET BACK-UP)		111
* TASK SPECIFIC (confined space,	0.0%	0
high elevation, congestion, etc.)		111

* PPE SPECIFIC (Based on current data and estimating knowledge)

	PPE LEVEL									
	D		Mod.'D'		Mod. "C"		C		C+	
PRODUCTIVITY HOURS		MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's
(AS A %) / ADD MH's	5.00%	6	27.00%	30	64.00%	71	72.00%	80	96.00%	107
(AS A MULTIPLIER)/TOTAL HRS	1.05	116.6	1.27	141	1.64	182	1.72	190.9	1.96	217.6
TOTAL MULTIPLIER w/SITE PROD.	1.1655		1.4097		1.8204		1.9092		2.1756	

NOTE : Use the Default Productivity Factor of 'mC' for working in a contaminated area if the Safety Level cannot be determined.

(SEE FD FERNALD ESTIMATING SERVICES REFERENCE MANUAL IM-6006 8.10)

Total hours worked in a specific PPE level divided by 10 hour working days = (PPE) ManDays to determine material cost of PPE's.
(SEE APPENDIX C - HEALTH PHYSICS)

12.0	Man Days	14.0	Man Days	18.0	Man Days	19.0	Man Days	22.0	Man Days

THESE EFFICIENCY FACTORS WERE APPLIED INDIVIDUALLY THROUGHOUT THE ESTIMATE AT A TASK SPECIFIC LEVEL, TO OBTAIN A MORE ACCURATE ACCOUNT OF OVERALL EFFICIENCY IMPACT DUE TO PPE REQUIREMENTS IN HANDLING CONTAMINATED AND HAZARDOUS WASTE.

EFFICIENCY FACTORS

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY05
ESTIMATE NO. C2-01-05-01-E5
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 12-Sep-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLE

PPE MULTIPLIER DEVELOPEMENT

		D	mD	mC	C	C+
CREW SIZE & MAKE-UP	STANDARD	7	7	7	7	7
	WORKER-BUDDY	0	0	0	0	0
	SUPPORT TEAM	0	0	0	0	0
	TOTAL CREW	7	7	7	7	7
CREW SIZE RATIO		1.00	1.00	1.00	1.00	1.00
AVAILABLE WORK TIME FACTOR		0.95	0.79	0.71	0.71	0.68
PPE LABOR PRODUCTIVITY FACTOR		1	1	0.86	0.82	0.75
NET PRODUCTIVITY RATIO		0.95	0.79	0.611	0.582	0.51
NET PRODUCTIVITY MULTIPLIER		**1.05**	**1.27**	**1.64**	**1.72**	**1.96**

These factors were based on Tables 6.1 and 6.2, Moderate Work Efforts, 66F to 85F temperature of 'Hazardous Waste Cost Control' by R.A.Selg.
Modifications were made to reflect a 10 hour work day and no buddy system or support team for levels D, mC and C.
The worker-buddy and support team members, if required, may be covered under Construction Mgmt. (Rad Techs).

AVAILABLE WORK TIME FACTOR		D	mD	mC	C	C+
TOTAL WORK MINUTES per [5 - 10's		600	600	600	600	600
ADDITN'L.SITE SAFETY MEETINGS NOT INCLD. IN BAS	QUANTITY	1	1	1	1	1
	MINUTES	25	25	25	25	25
TOTAL		25	25	25	25	25
PPE DON & DOFFING	QUANTITY	0	0	3	3	3
(ADJUST LEVEL D per WORK PLAN)	MINUTES	0	0	15	15	20
TOTAL			0	45	45	60
WORK BREAKS	QUANTITY	N/A	2	2	2	2
(ADJUST LEVEL D per WORK PLAN)	MINUTES	N/A	15	15	15	15
TOTAL			30	30	30	30
MOBILIZATION - ROUND TRIPS	QUANTITY	N/A	4	4	4	4
(ADJUST LEVEL D per WORK PLAN)	MINUTES	N/A	15	15	15	15
TOTAL			60	60	60	60
COOLDOWNS PER DAY	QUANTITY	2	3	4	4	4
** (2 OUT OF 8 MONTHS) 25.00%	MINUTES	10	12	15	15	15
TOTAL		5	9	15	15	15
AIR TANK REPLACEMENT	QUANTITY	N/A	N/A	N/A	N/A	N/A
	MINUTES	N/A	N/A	N/A	N/A	N/A
TOTAL						
AVAILABLE WORK TIME		570	476	425	425	410
AVAILABLE WORK TIME FACTOR		**0.95**	**0.79**	**0.71**	**0.71**	**0.68**

NOTE: Adjust 'Work Minutes per Day' basis to: 5 - 8's, or leave as 4 - 10's . Any other circumstances, over-ride the minutes per day.

** Assumption based on work performed in May, June, July & August, pro-rating cost over one year. Adjust % to individual circumstances. Changed to July & August over an 8 mth period.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY05
ESTIMATE NO. C2-01-05-01-E5
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 12-Sep-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLE

PPE"s - PERSONAL PROTECTIVE EQUIPMENT

DESCRIPTION	UNIT	UNIT COST	* NO. OF CHANGE OUTS PER WORKER PER DAY				
			Man Days (TOTAL HOURS worked in PPE's Div. by WORK HOURS / DAY)				
PPE LEVEL C / C+ / B : F/HF MASK w/RESP.&CART.			*	MAN DAYS	MAT'L.$'s	PPE LEVEL	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	(DOUBLE PPE)
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	C / C+	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	C / C+	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	C / C+	
APR CARTRIDGES - DISPOSABLE	PR	$6.98	3	0	$0	C / C+	
SUB-TOTAL		$17.42	3		$0		
				$/MD =	$0.00		

PPE LEVEL mC : FULL DRESS w/ FACE SHIELD				MAN DAYS	MAT'L.$'s	PPE LEVEL
LT.WT. DISPOSABLE COVERALLS W/HOOD & BOOTIE	PR	$4.46	3	0	$0	mC
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	mC
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	mC
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	mC
SUB-TOTAL		$5.98	3		$0	
				$/MD =	$0.00	

SUBCONTRACTOR REQUIRED PURCHASES			QTY. PER WKR.	NO. OF WORKERS	MAT'L.$'s	PPE LEVEL
RUBBER BOOT COVERS-(1)PR.PER WORKER	PR	$12.70	2	8	$203	D/C/B
APR w/HALF FACE MASK - (1) PER WORKER	EA	$22.30	6	0	$0	C
APR w/FULL FACE MASK - (1) PER WORKER	EA	$174.00	6	0	$0	C
SCBA	EA	$1,894.00	2	0	$0	B
COOL VESTS	EA	$137.50	6	0	$0	C/B
THERMO STRIPS	EA	$50.00	6	0	$0	C/B
SUB-TOTAL					$200	

	MAT'L.$'s
TOTAL PPE's =	$200

(FORWARD TO PAGE 2 OF 2)

OTHER PPE's SUCH AS HARD HAT, SAFETY GLASSES/GOGGLES, STEEL TOED SAFETY SHOES, HEARING PROTECTION, ARE CONSIDERED THE SUBCONTRACTORS RESPONSIBILITY AND ARE COVERED IN HIS OVERHEAD EXPENSE.
COSTS OF FD FERNALD SUPPLIED PPE's, SUCH AS COTTON COVERALLS, EXCHANGE OF RUBBER BOOT COVERS AND RESPIRATORS FOR CHANGEOUTS AND CLEANING OF SAME IS INCURRED BY FD FERNALD AND COSTS ARE NOT INCLUDED AS PART OF PROJECT COSTS AT THIS TIME.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY05
ESTIMATE NO. C2-01-05-01-E5
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 12-Sep-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLE

--MEDICAL MONITORING --

MEDICAL - PHYSICAL and IN-VIVO MONITORING - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION PHYSICAL (3hrs), IN-VIVO (1hr)	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $
BASELINE PHYSICALS	1	4	0	0	$27.09	$0
ANNUAL PHYSICALS	0	4	0	0	$27.09	$0
EXIT (TERMINATION) PHYSICALS (IN-VIVO)	1	1	0	0	$27.09	$0
SUB-TOTAL						$0

RADIATION IN-VITRO SURVEILLANCE - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $
BI-MONTHLY BIOASSAY	6	1	0	0	$27.09	$0
SUB-TOTAL						$0

RANDOM DRUG TESTING

	TESTS	HRS	TOTAL HOURS	AVG. RATE	LABOR $'s
	14	2	28	$27.09	$800

NO. OF WKRS. TESTED	TESTING DAYS PER YR.	AVG. NO. OF TESTS PER DAY	CHANCE/ DAY FOR TEST	NO. OF WKRS. FOR THIS ESTIMATE	CHANCES /DAY FOR TEST FOR PROJECT	CONSTR WORKING DAYS
2340	226	10	0.0042735	25	0.1068	130

		LABOR $'s THRU SAFETY	LABOR $'s
WORK DELAYS CAUSED BY MONITORING	0.5%	$450,800	$2,300
			LABOR $'s
WORK DELAYS CAUSED BY RAD CHECKING	0.5%	$450,800	$2,300

	TOTAL LABOR	TOTAL MAT'L.	GRAND TOTAL
TOTAL HEALTH PHYSICS	$5,400	$200	$5,600

(FORWARD TO ESTIMATE SUMMARY SHEET)

APPENDIX "D"

ACTIVITY DURATIONS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 5 LINER CCPLE FY05
ESTIMATE NO. C2-01-05-01-E5
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 12-Sep-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLE

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION	Days per Schedule	
						Each Year		
Monitoring Well	04-May-01	18-Aug-04	08-Sep-04	30-Sep-04	1.4	MONTHS	31	14.4%
Liner		01-Apr-05	14-Jul-05	27-Oct-05	6.9	MONTHS	147	70.1%
Video & Demob		14-Nov-05	07-Dec-05	30-Dec-05	1.5	MONTHS	31	15.4%
TOTAL					9.8	MONTHS		
					10.0		209	

	DATE of EST. to MID-POINT ACTIVITY DURATION	
a.	40.2	MONTHS
b.	1273	MONTHS

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION
OPERATIONS					0	MONTHS

DATE of EST. to MID-POINT ACTIVITY DURATION	
0	MONTHS

ACTIVITY DURATION IS USED IN DETERMINING NUMBER of WORKERS for CERCLA/SAT TRAINING HOURS and HEALTH PHYSICS COSTS.

APPENDIX "E"

TRAINING

PROJECT:	OSDF BASELINE CELL 5 LINER CCPLE FY05	DATE:	12-Sep-01
ESTIMATE #:	C2-01-05-01-E5	ESTIMATOR:	RIS
CLIENT:	DOE	LOCATION:	FERNALD
WBS #:	1.1.C.D	TASK #:	CCPLE

FLUOR FERNALD

Site Access Training Requirements (RM-0055 Rev. 1 Effective: 09/30/99)

Training Requirements	Non-Hazardous	Occasional Site Worker	General Site Worker		
Access Area	**Administrative Support Area**	**Controlled Area**	**Contamination Compound**	**Frequency**	
	8 Hour	24 Hour Hazwoper	40 Hour Hazwoper		
General Employee Training	X	X	X	Annually	
Site Worker Training		X	X	One Time	
Rad. Worker I		X		Biennially	
Rad. Worker II			X	Biennially	
Respirator Training *			X	Annually	
Respirator Fit Testing *			X	Annually	
Supervised Field Experience	0 HR	8 HR	24 HR	One time →	*On the Job*
Site Worker Refresher		X	X	Annually ⇨	4 Hour
Rad. Worker I Retraining		X		Every 2 years ⇨	4 Hour
Rad. Worker II Retraining			X	Every 2 years ⇨	8 Hour

Additional Training	HRS	No. of Workers	Total Hours
Job Specific Training =	2	7	14
Fire Watch Training =	1	2	2
Lead Worker Training =	4	7	28
Lock out / Tag out Training =	8	3	24
Rigging Training =	24	4	96
Scaffold Training =	16	4	64

DURATION 10 Month(s)

Average Rate $ 27.09

Number of General Site Worker(s)	15	General Site Worker Training Cost	$16,221
Number of Occasional Site Worker(s)	1	Occasional Site Training Cost	$650
Number of Non-Hazardous Worker(s)	1	Non-Hazardous Training Cost	$217
		Additional Training Cost	$6,177
Total Training Hours	859	Total Training Cost =	$23,265

* = All employees classified as General Site Worker must initially take respirator training. The annual requirement for the repeat of training and the fit test frequency requirements are only needed by those employees that are required to wear a respirator.

CCPLF

OSDF CELL #5 CAP

09/07/2001
11:35 AM

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

PBS: OHFN03
WBS: 1.1.C.D
CTRL ACCT: CCPL
CHARGE NO: CCPLF
COMMENT NO N/A

DATE: 05-Sep-01
PROJECT MGR: JD Chiou
CAM: JD Chiou
PREPARED BY: W. F. Fick
FISCAL YEAR: 2008-2009

Resource: **FIELDSUB** **FIELD SUBS** **EOC:** **SUBCONTRACTORS**
Res Dept: **949** **Overtime:** **Class:** **SUB**

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Units:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3,293,063.2	1,024,496.8	0.0
Cum Units:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3,293,063.2	4,317,560.0	4,317,560.0
Yr Total Cost:	0	0	0	0	0	0	0	3,999,202	1,280,263	0
Cum Total Cost:	0	0	0	0	0	0	0	3,999,202	5,279,465	5,279,465

GRAND TOTALS:

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Total Cost:	0	0	0	0	0	0	0	3,999,202	1,280,263	0
Cum Total Cost:	0	0	0	0	0	0	0	3,999,202	5,279,465	5,279,465

CAM _____ CONTROL TEAM _____

INCLUDES ESCALATION COSTS

CCPLF

Fluor Fernald, Inc.

PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #2, #3, #4, #5, #6, & #7 Caps
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-05-A5 & A6
C2-2001-005-05-B6 & B7
C2-2001-005-05-D7 & D8
C2-2001-005-05-F8 & F9
C2-2001-005-05-H9 & H10
C2-2001-005-05-K9 & K10

BASIS OF ESTIMATE

SUPPORTING DOCUMENTATION:

Verbal Scope	☒	P & ID's	☐	Work Plan	☐
Drawings	☐	Equipment List	☐	Site Walk	☐
Sketches	☐	Specifications	☐	Eng. Mtg.	☒
Flow Diagrams	☐	Written Scope	☒	Estimate	☐

TYPE OF ESTIMATE:

Change Proposal	☐	Government	☐
Plan/Feasibility	☐	Conceptual	☐
Construction	☐	Title I Design	☐
Budget	☒	Independent	☐

BASIS OF ESTIMATE:

These estimates present the baseline cost for construction of the OSDF Cell caps. Each cell comprises two estimates, the earlier FY for the Bio-intrusion Barrier and the latter FY for the Filter, Vegetative Cover, and Vegetation. The included scope is from the Baseline Closure Plan and associated supporting documents. Durations are from the OSDF schedules and are presented in Appendix D. Control and Management is not included in these estimates; it is, however, included in a separate C & M estimate. Both projects are by the sub-contractor. Surveying by a three person sub-contractor crew at $140/hour is included. Both the surveying and project staffing costs are allocated among the various simultaneous OSDF projects per the OSDF documents and chart. Equipment operating costs assume an 85% operations factor unless otherwise indicated.

Fluor Fernald, Inc.

PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #2, #3, #4, #5, #6, & #7 Caps
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-05-A5 & A6
C2-2001-005-05-B6 & B7
C2-2001-005-05-D7 & D8
C2-2001-005-05-F8 & F9
C2-2001-005-05-H9 & H10
C2-2001-005-05-K9 & K10

Fluor Fernald purchases geo-synthetics (GML, Geotextile, etc.). Deployment of the geo-synthetics is by the sub-contractor. Welding and sewing is by a specialty contractor.

Fluor Fernald, Inc.
PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #2, #3, #4, #5, #6, & #7 Caps
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-05-A5 & A6
C2-2001-005-05-B6 & B7
C2-2001-005-05-D7 & D8
C2-2001-005-05-F8 & F9
C2-2001-005-05-H9 & H10
C2-2001-005-05-K9 & K10

ESTIMATE ASSUMPTIONS

EXECUTION:

- ☒ This project is to be performed on a 50-hour week, 10 hours a day.
- ☐ This project is to be performed on a 40-hour week, 8 hours a day.
- ☒ Premium time allowed.

WAGE RATES:

- ☒ Wage rates within this estimate are based on Project Labor Agreement rates, effective October 2000 and are considered FY01 dollars for estimating.
- ☐ Wage rates within this estimate are based on FF Support Contractor FSC 645 wage rates, effective January 30, 2001 and are considered FY01 dollars for estimating.
- ☐ Wage rates within this estimate are based on FF FTE Planning Labor Rates FY01.

ENGINEERING:

- ☒ N/A
- ☐ Engineering dollars provided by the Project Engineer.
- ☐ Engineering dollars have been factored in at the standard 12% of the total direct and indirect field costs as per request of Project Engineer.

CONSTRUCTION MANAGEMENT:

- ☐ N/A
- ☒ Construction Management staffing by discipline has been included.
- ☐ Construction Management dollars have been factored in at the standard 30% of the total direct and indirect field costs as per request of Project Engineer.

PROJECT MANAGEMENT:

- ☒ N/A

Fluor Fernald, Inc.
PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #2, #3, #4, #5, #6, & #7 Caps
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C2-2001-005-05-D7 & D8
C2-2001-005-05-F8 & F9
C2-2001-005-05-H9 & H10
C2-2001-005-05-K9 & K10

☐ Project Management dollars provided by the Project Engineer.
☐ Project Management dollars have been factored in at the standard 30% of the total direct and indirect field costs as per request of Project Engineer.

WASTE PROGRAM MANAGEMENT:
☒ N/A
☐ Waste Program Management dollars provided by the Project Engineer.

PRODUCTIVITY:
A productivity factor has been developed and applied to the unit man-hours derived from MEANS, Richardson, NECA, and or any other published estimating source. See attachment APPENDIX "A" and APPENDIX "B".

ESCALATION:
Escalation costs are excluded from the target estimate. The escalation costs are calculated within the Micro-Frame computer system according to the plan for rebaselining.

UNIT RATES:
Unit man-hours and material dollars are based on Richardson, MEANS, NECA, National Constructor, historical data at Fernald, and or other published rates. Some man-hours and equipment requirements are provided by engineering and CM. Equipment rental rates and hourly operating costs are from the Blue Book Volume 1.

G & A (HO EXPENSE):
G & A are excluded from the target estimate. The G & A cost are calculated within the Micro-Frame computer system according to the plan for rebaselining.

Fluor Fernald, Inc.

PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #2, #3, #4, #5, #6, & #7 Caps
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-05-A5 & A6
C2-2001-005-05-B6 & B7
C2-2001-005-05-D7 & D8
C2-2001-005-05-F8 & F9
C2-2001-005-05-H9 & H10
C2-2001-005-05-K9 & K10

HEALTH PHYSICS:
See attached APPENDIX "C".

RISK BUDGET:
N/A

CONTINGENCY:
N/A

Fluor Fernald, Inc.
PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #2, #3, #4, #5, #6, & #7 Caps
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-05-A5 & A6
C2-2001-005-05-B6 & B7
C2-2001-005-05-D7 & D8
C2-2001-005-05-F8 & F9
C2-2001-005-05-H9 & H10
C2-2001-005-05-K9 & K10

ESTIMATE INCLUSIONS & EXCLUSIONS

INCLUSIONS:

- Mobilization.
- Demobilization.
- Labor hours.
- Material dollars.
- Equipment rental.
- Equipment operating.
- Contractor staffing.
- Geosynthetics purchase by FF.

EXCLUSIONS:

- Permits and fees.
- FF G & A (Home Office Expense).
- Escalation due to volatile petroleum costs.
- Any second tier subcontract costs.
- Project Management dollars.
- Waste Management dollars.
- Control & Management
- Landlord costs.

ESTIMATE SUMMARY SHEET

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #5 CAP, FY08
ESTIMATE #: C2-01-05-05-F8
CLIENT: DOE
WBS #: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLF

ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	EQUIP. $	TOTAL $
Insurance & Bond				$113,460			$113,460
Submittals	2,563		$94,710		$200		$94,910
Overhead and Profit				$570,872			$570,872
Off Hours Dust Control				$20,000			$20,000
Mobilization	644		$15,340	$25,430	$71,800	$13,370	$125,940
Site Preparation	708		$16,800		$18,040	$29,980	$64,820
Contouring Layer	1,535		$35,800	$15,000		$103,350	$154,150
Clay Cap	3,695		$87,330	$5,000		$135,580	$227,910
Geosynthetics Purchase by FF					$314,460		$314,460
Install Geosynthetics	1,150		$27,610	$87,500		$20,700	$135,810
Leak Detection Testing	150		$3,600	$18,600		$1,260	$23,460
Cover Drainage Layer	1,361		$32,170		$288,000	$49,980	$370,150
Biointrusion Barrier	2,901		$68,560		$654,000	$109,250	$831,810
Survey				$52,800			$52,800
Project Staffing	3,657		$121,440				$121,440
DIRECT FIELD COSTS TOTAL	**18,364**	**$27.41**	**$503,360**	**$908,662**	**$1,346,500**	**$463,470**	**$3,221,992**
SUPERVISION - CONTRACTOR							
SMALL TOOLS & CONSUMABLES	-	-	-		$6,100		$6,100
MISC. EQUIP. RENTAL	-	-	-			$23,700	$23,700
TEMPORARY FACILITIES incl w/Mobilization							
TEMPORARY UTILITY HOOK-UP incl w/Mobilzation							
JOB CLEAN-UP incl w/Job Close-out							
PER DIEM / SUBSISTANCE	-	-	-				
HEALTH PHYSICS S/C incl w/Submittals							
CERCLA - TRAINING incl w/Submittals							
GET/SITE ACCESS & JOB SPECIFIC TRAINING w/su							
PAYROLL BURDENS & BENEFITS	-	-	$286,900				$286,900
OVERHEAD & PROFIT	-	-	-				
BOND	-	-	-				
SALES TAX	-	-	-		$81,200	$29,200	$110,400
INDIRECT FIELD COSTS TOTAL			**$286,900**		**$87,300**	**$52,900**	**$427,100**
DIRECT & INDIRECT FIELD COSTS TOTAL	**18,364**	**$43.03**	**$790,260**	**$908,662**	**$1,433,800**	**$516,370**	**$3,649,092**
TARGET ESTIMATE			**(FY 01 DOLLARS)**				**$3,649,100**

ESTIMATE PERFORMED BY ESTIMATING SERVICES

ESTIMATE SUMMARY SHEET

PROJECT: Baseline OSDF CELL #5 CAP, FY08 — DATE: 17-May-01

ESTIMATE NO. C2-01-05-05-F8 — ESTIMATOR: RIS

CLIENT: DOE — LOCATION: FERNALD

WBS NO.: 1.1.C.D — TASK NO.: CCPLF

FACTORS

FIXED PRICE :	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
DFC DOLLARS	$503,360	$908,662	$1,346,500	$463,470		$3,221,992
IFC COST FACTOR	1.5700	–	1.0045	1.0511	–	
BOND + OVERHEAD & PROFIT COST FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	
SALES TAX	-	-	1.0600	1.0600	1.0600	
DIRECT FIELD COST FACTOR =	**1.5700**	**1.0000**	**1.0648**	**1.1142**	**1.0600**	
BASE ESTIMATE $'S	$790,260	$908,662	$1,433,756	$516,400		$3,649,078
BASE FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	
TARGET ESTIMATE FACTOR	**1.5700**	**1.0000**	**1.0648**	**1.1142**	**1.0600**	
FPS TARGET ESTIMATE (FY00 $)	$790,260	$908,662	$1,433,756	$516,400		$3,649,078

NOTE:

IF THERE ARE NO DFC EQUIP. $, ENTER THE IFC EQUIP. $'S INTO THE DIRECT FIELD COST TOTAL AND DELETE IFC FACTOR IN G65.

ESTIMATE SUMMARY SHEET

PROJECT: Baseline OSDF CELL #5 CAP, FY08 — **DATE:** 17-May-01

ESTIMATE NO. C2-01-05-05-F8 — **ESTIMATOR:** RIS

DIRECT FIELD COST W/FACTORS

CLIENT: DOE — **LOCATION:** FERNALD

WBS NO.: 1.1.C.D — **TASK NO.:** CCPLF

PAY ITEM NO.	DESCRIPTION	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
		(ASSIGN OR PRORATE PPE MAT'L.$'S)—>>					
	Insurance & Bond		113460				
			$113,460				$113,460
	Submittals	94710		200			
		$148,690		$210			$148,900
	Overhead and Profit		570872				
			$570,870				$570,870
	Off Hours Dust Control		20000				
			$20,000				$20,000
	Mobilization	15340	25430	71800	13370		
		$24,080	$25,430	$76,450	$14,900		$140,860
	Site Preparation	16800		18040	29980		
		$26,380		$19,210	$33,400		$78,990
	Contouring Layer	35800	15000		103350		
		$56,200	$15,000		$115,150		$186,350
	Clay Cap	87330	5000		135580		
		$137,110	$5,000		$151,060		$293,170
	Geosynthetics Purchase by FF			314460			
				$334,840			$334,840
	Install Geosynthetics	27610	87500		20700		
		$43,350	$87,500		$23,060		$153,910
	Leak Detection Testing	3600	18600		1260		
		$5,650	$18,600		$1,400		$25,650
	Cover Drainage Layer	32170		288000	49980		
		$50,510		$306,660	$55,690		$412,860
	Biointrusion Barrier	68560		654000	109250		
		$107,640		$696,380	$121,730		$925,750
	Survey		52800				
			$52,800				$52,800
	Project Staffing	121440					
		$190,660					$190,660
TOTAL DIRECT FIELD COSTS W/FACTORS		(FY01 DOLLARS)					$3,649,070

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #5 CAP, FY08
ESTIMATE NO.: C2-01-05-05-F8
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLF

ITEM NO.	SUMMARY	QTY	UNIT	MAN-HOURS			COST / UNIT				LABOR	S/C	MAT'L	EQUIP	TOTAL
				Unit	Total	Rate	Labor	S/C	Mat'l	Equip					
	Insurance & Bond											$113,460			$113,460
	Submittals				2563						$94,710		$200		$94,910
	Overhead and Profit											$570,870			$570,870
	Mobilization				644						$15,340	$25,430	$71,800	$13,370	$125,940
	Site Preparation				708						$16,800		$18,040	$29,980	$64,820
	Survey											$52,800			$52,800
	Contouring Layer				1,535						$35,800	$15,000		$103,350	$154,150
	Clay Cap				3,695						$87,330	$5,000		$135,580	$227,910
	Geosynthetics Purchase by FF												$314,460		$314,460
	Install Geosynthetics				1,150						27,610	87,500		20,700	$135,810
	Leak Detection Testing				150						$3,600	$18,600		$1,260	$23,460
	Cover Drainage Layer				1,361						$32,170		$288,000	$49,980	$370,150
	Biointrusion Barrier				2,901						$68,560		$654,000	$109,250	$831,810
	Off Hours Dust Control											20,000			$20,000
	Project Staffing				3,657						121,440				$121,440
	Subtotal Direct Cost	1	LOT		18364	$27.41					503,360	908,660	1,346,500	463,470	$3,221,990

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #5 CAP, FY08
ESTIMATE NO.: C2-01-05-05-F8
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLF

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Insurance & Bond							COST							
	Performance bond 1.3%							THRU							
	Insurance 1.5%							OH & P							
	For both FYs Sub-total 2.8%							3425232				$113,460			$113,460
	Submittals														
D	Plans	16	EA	50	800	50.62					$40,500				$40,500
D	Technical submittals	100	EA	5	500	50.62					$25,310				$25,310
D	Site access & GET traing, cnstrct work force	25	EA	18	450	27.41					$10,560				$10,560
D	Site access & GET traing, PM, CM etc	7	EA	18	126	33.21					$2,270				$2,270
D	Site access & GET traing, surveyers & others	4	EA	18	72	75.00					$1,300				$1,300
mD	CERCLA/RAD II training, constrct work force	10	EA	25	250	27.41					$5,870				$5,870
mD	CERCLA/RAD II traing, PM, CM etc	4	EA	25	100						$2,500				$2,500
mD	CERCLA/RAD II traing, surveyers & others	4	EA	25	100	75.00					$2,500				$2,500
D	Health Physics				165	23.64					$3,900		$200		$4,100
	Sub-total				2563						$94,710		$200		$94,910
	Overhead and Profit														
				20%								$570,870			$570,870
D															
D															
D															
D															
D															
D															

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #5 CAP, FY08
ESTIMATE NO.: C2-01-05-05-F8
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLF

	Mobilization	QTY	UNIT	MAN-HOURS			COST/UNIT				LABOR	S/C	MAT'L	EQUIP	TOTAL
				Unit	Total	Rate	Labor	S/C	Mat'l	Equip					
	S/C Office Trailer 2 reqd	8	MO					550				$8,430			$8,430
	Heat stress / support trailers 2 reqd	8	MO					350				$5,370			$5,370
D	Trailer set-up & delivery	4	LS					1,300				$5,200			$5,200
	Laydown area:														
D	#304 stone, 6" x 100,000sf	3,056	TON						12.00				$36,700		$36,700
D	10% waste, 1.5 ton/icy	11,111	SY	0.012	155	23.64				0.55	$3,660			$7,120	$10,780
D	Stabilization fabric, 6 oz/sy, (8% wast	12,000	SY	0.002	28	23.64			0.84	0.02	$660		$10,100	$280	$11,040
	Compaction testing 40 hr	1	LOT					1275				$1,280			$1,280
	Equipment fueling area:														
D	#304 stone, 8" x 30,000sf	1,223	TON						12.00				$14,700		$14,700
D	10% waste, 1.5 ton/icy	3,333	SY	0.012	47	23.64				0.55	$1,110			$2,140	$3,250
D	Stabilization fabric, 6 oz/sy, (8% wast	3,600	SY	0.002	8	23.64			0.84	0.02	$190		$3,000	$80	$3,270
	Compaction testing 20 hr	1	LOT					763				$760			$760
	Portable toilets 2 ea	8	MTH					85				$1,300			$1,300
	Potable water, Allow 5jug/mth, $8/jug	8	MTH					12	40			$90	$300		$390
D	Electric Installation Allow	1	WK		100	24.93			1050	75	$2,490		$4,300	$3,750	$10,540
	Telephone installation Allowance	1	LOT					3000				$3,000			$3,000
D	Mobilize contractor equipment	20	EA	3	70	23.64					$1,650				$1,650
D	Construction fence	1000	LF	0.078	91	23.64			$1.05		$2,150		$1,000		$3,150
D	Rad fence	1600	LF	0.078	145	23.64			$1.05		$3,430		$1,700		$5,130
	Mobilization				644						15,340	25,430	71,800	13,370	$125,940

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #5 CAP, FY08
ESTIMATE NO.: C2-01-05-05-F8
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLF

ITEM NO.	Site Preparation	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Access Corridor/Service Road														
D	a. Excavation	600	CY	0.023	16	23.64				1.42	$380			$850	$1,230
D	b. Fill	600	CY	0.017	12	23.64				0.74	$280			$440	$720
D	c. Grading	2500	SY	0.005	15	23.64				0.13	$350			$330	$680
D	d. Crushed rock, 6" thk	500	TON	0.049	29	23.64			12	1.25	$690		$6,000	$630	$7,320
D	e. Geotextile Fabric	9000	SF	0.00022	2	23.64			0.08	0.002	$50		$720	$20	$790
	Sub-total				72						$1,750		$6,720	$2,270	$10,740
	General Grading for Cap														
D	a. Excavation inc non-impctd part of haul rd	6200	CY	0.023	166	23.64				1.42	$3,920			$8,800	$12,720
D	b. Fill	2000	CY	0.017	40	23.64				0.74	$950			$1,480	$2,430
D	c. Grading	14500	SY	0.005	84	23.64				0.13	$1,990			$14,820	$16,810
	Sub-total				290						$6,860			$25,100	$31,960
D															
D															
D															
	Sub-total														
	Surface Drainage														
D	Earthwork-Trench excavation for culvert 127	141	BCY	0.053	9	23.64				1.38	$210			$230	$440
D	Pipe embedment fill, sand 27	43	TON	0.048	2	23.64			6	0.83	$60		$260	$40	$360
D	CMP culvert, 30", borrow area haul road	66	LF	0.43	33	23.64			21	0.47	$780		$1,680	$40	$2,500
D	RCP culvert, 30"class 4, contractor access road	53	LF	0.64	39	23.64			34	7.15	$920		$2,040	$440	$3,400
D	RCP culvert, 18"	50	LF	0.18	11	23.64			17	0.93	$260		$1,020	$50	$1,330
D	Rip Rap type D 249	340	TON	0.027	11	23.64			15.50	1.23	$260		$5,270	$490	$6,020
D	Silt fence	3500	LF	0.017	69	23.64			0.30		$1,630		$1,050		$2,680
	Sub-total				174						$4,120		$11,320	$1,290	$16,730
D	Dewater, 30% of duration	49	DAYS	3	172	23.64				23	$4,070			$1,320	$5,390
D															
D															
D															
	Site Preparation				**708**						**16,800**		**18,040**	**29,980**	**$64,820**

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #5 CAP, FY08
ESTIMATE NO.: C2-01-05-05-F8
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLF

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Off Hours Dust Control Allow $40,000 per year split between cell cap & cell liner	0.5	LOT					40,000				$20,000			$20,000
D	Survey 7.7 mth							140				$52,800			$52,800
	Subtotal Direct Cost	1	LOT			#DIV/0!						72,800			$72,800

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #5 CAP, FY08
ESTIMATE NO.: C2-01-05-05-F8
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLF

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Contouring Layer														
D	Remove 2 rows silt fence fr impacted layer	1	DAY	30	30	24.11				203.19	$720			$200	$920
D	Prepare eroded select impacted layer:	900	CY	0.045	42	23.64				2.29	$990			$2,060	$3,050
	(Grading & compacting)														
D	2 operators	5	DAY	20	100	27.03					$2,700				$2,700
D	2 laborer	5	DAY	20	100	22.65					$2,260				$2,260
	Dozer, D6 5 day -	0.23	MTH							7040				$1,620	$1,620
	Smooth drum roller, Cat 563 5 day -	0.23	MTH							4335				$1,000	$1,000
	Dozer, D6 @85%		HR	43						21.87				$930	$930
	Smooth drum roller, Cat 563 @85%		HR	43						15.48				$660	$660
D	Contouring layer, excav/haul fr s stkpl area	13000	CY	0.040	605	23.64				3.49	$14,300			$45,380	$59,680
D	Construct access ramp (fill) per CM														
D	3 operators	2	DAY	30	60	27.03					$1,620				$1,620
D	1 laborer	2	DAY	10	20	22.65					$450				$450
D	3 teamsters	1	DAY	30	30	22.86									
	Dozer, D6 2 day -	0.09	MTH							7040				$650	$650
	Sheepsfoot roller, Cat 825 2 day -	0.09	MTH							13390				$1,240	$1,240
	Truck, Volvo A30, 6 reqd 2 day -	0.09	MTH							7905				$4,380	$4,380
	Dozer, D6 @85%		HR	17						21.87				$2,230	$2,230
	Sheepsfoot roller, Cat 825 @ 85%		HR	17						41.55				$4,240	$4,240
	Truck, Volvo A30, 6 reqd @ 85%		HR	102						27.12				$16,600	$16,600
D	Place contouring layer	10500	CY	0.0331	348	23.64				2.11	$8,230			$22,160	$30,390
D	Rock picking, 2 laborers	10	DAY	20	200	22.65					$4,530				$4,530
D	Storm water management allowance	1	LOT					15000				$15,000			$15,000
	Contouring Layer	**1**	**LOT**		**1535**	**$23.32**					**35,800**	**15,000**		**103,350**	**$154,150**

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #5 CAP, FY08
ESTIMATE NO.: C2-01-05-05-F8
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLF

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Clay Cap														
D	Excavate clay from stockpile & load trck 28000	24839	BCY	0.017	499	23.64				0.94	$11,790			$27,300	$39,090
D	Haul from stockpile, 1.5 mile RT	24839	BCY	0.033	941	23.64				2.22	$22,240			$64,270	$86,510
D	Clay, spread w/5 cy loader	24839	BCY	0.01	289	23.64				0.83	$6,830			$24,030	$30,860
D	Clay cap, compact (Cat 815)	24839	BCY	0.040	1166	23.64				0.69	$27,560			$19,980	$47,540
D	Rock picking requires 2 laborers	8	WK	100	800	23.64					$18,910				$18,910
	Borrow area road maintenance	1	LOT					5000				$5,000			$5,000
	Clay Cap	**1**	**LOT**		**3695**	**$23.63**					**87,330**	**5,000**		**135,580**	**$227,910**

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #5 CAP, FY08
ESTIMATE NO.: C2-01-05-05-F8
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLF

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Geosynthetics Purchase by FF														
	Geomembrane, 60 mil textured (GML)	410000	SF					0.25				$102,500			$102,500
	Geomembrane, 60 mil smooth (GML)	4000	SF					0.60				$2,400			$2,400
	Geosynthetic clay cap (GCL)	410000	SF					0.40				$164,000			$164,000
	Geotextile cushion 8 oz	430000	SF					0.08				$34,400			$34,400
	Geotextile cushion 16 oz	73000	SF					0.12				$8,760			$8,760
	Welding rod	100	BOX					24.00				$2,400			$2,400
	Bentonite		BAG												
	Sub-total											$314,460			$314,460
	Install Geosynthetics														
	Receive & store, 8 days over 1 mth w/	1	LOT												
	Cat TH83 forklift	1	MTH							3765				$3,770	$3,770
D	1 operator	8	DAYS	10	80	27.03					$2,160				$2,160
D	2 laborers	8	DAYS	20	160	22.65					$3,620				$3,620
	Cat TH83 forklift oper cost @ 85%	68	HR							12.45				$850	$850
	Placement of GCL & GML incl bentonit	17	DAYS												
	Cat TH83 forklift	0.8	MTH							3765				$2,950	$2,950
	Positrac (priced as Cat 246)	0.8	MTH							2165				$1,700	$1,700
	Cat 563 smooth drum roller	0.8	MTH							4335				$3,400	$3,400
D	1 operator	17	DAYS	10	170	24.60					$4,180				$4,180
D	2 laborers	17	DAYS	20	340	23.75					$8,070				$8,070
	NOTE: Operating factor at 85%														
	Cat TH83 forklift	145	HR							12.45				$1,800	$1,800
	Positrac (priced as Cat 246)	145	HR							7.25				$1,050	$1,050
	Cat 563 smooth drum roller	145	HR							15.48				$2,610	$2,610
	Install by S/C	350000	SF					0.25				$87,500			$87,500
	Placement of Geotex	5	DAYS												
	Cat TH83 forklift	0.23	MTH							3765				$1,010	$1,010
	Positrac (priced as Cat 246)	0.23	MTH							2165				$580	$580
D	2 operators	5	DAYS	20	100	24.60					$2,460				$2,460
D	6 laborers	5	DAYS	60	300	23.75					$7,120				$7,120
	Cat TH83 forklift oper @ 85%	43	HR							12.45				$620	$620
	Positrac (priced as Cat 246) oper @	43	HR							7.25				$360	$360
	Install Geosynthetics	**1**	**LOT**		**1150**						**27,610**	**87,500**		**20,700**	**$135,810**

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #5 CAP, FY08
ESTIMATE NO.: C2-01-05-05-F8
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLF

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Leak Detection Testing														
	Leak Detection Testing	1	LOT					18600				$18,600			$18,600
	Water Management														
D	1 operator	5	DAYS	10	50	24.60					$1,230				$1,230
D	2 laborers	5	DAYS	20	100	23.75					$2,370				$2,370
	Positrac (priced as Cat 246)	0.23	MTH							2165				$500	$500
	2" pump, gas w/50ft ea suction & disch hose	0.23	MTH							441				$120	$120
	Positrac operating @ 85% factor	43	HR							12.45				$620	$620
	Pump operating @ 50% factor	25	HR							0.80				$20	$20
	Sub-total				150						$3,600	$18,600		$1,260	$23,460
	Cover Drainage Layer														
D	Drainage layer, #78 stone, 1" thk, 1pass cmpct	24,000	TON	0.049	1361	23.64			12	1.79	$32,170		$288,000	$49,980	$370,150
	Biointrusion Barrier														
D	Rip Rap type D	50,000	TON	0.046	2661	23.64			12	1.72	$62,890		$600,000	$100,230	$763,120
D	Choke stone, #1 coarse aggregate	4,500	TON	0.046	240	23.64			12	1.72	$5,670		$54,000	$9,020	$68,690
	Sub-total				2901						$68,560		$654,000	$109,250	$831,810
	Subtotal Direct Cost	1	LOT		7,463	$23.65					176,490	37,200	1,596,000	271,000	$2,080,690

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Basolino OSDF CELL #5 CAP, FY08
ESTIMATE NO.: C2-01-05-05-F8
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLF

ITEM NO.			QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Project Staffing		Shared percent													
D	Project Manager	7.7 mth	30%	hr	1	280	54.42					$15,260				$15,260
D	General Superintendent	7.7 mth	30%	hr	1	280	37.85					$10,610				$10,610
D	Superintendent	7.7 mth	38%	hr	2	876	32.99					$28,900				$28,900
D	Project Engineer	7.7 mth	40%	hr	1	467	33.19					$15,510				$15,510
D	Quality Engineer	7.7 mth	38%	hr	2	876	28.05					$24,580				$24,580
D	Safety Engineer	7.7 mth	38%	hr	2	876	30.34					$26,580				$26,580
D	Office Administration	in overhead					19.31									
D	Contract Administration/ Schedu	in overhead					25.58									
D	Clerical	in overhead					14.58									
	TOTAL					3,657	33.21					$121,440				$121,440

APPENDIX " A"

PROJECT: Baseline OSDF CELL #5 CAP, FY08
ESTIMATE NC C2-01-05-05-F8
CLIENT: DOE
WBS NO.: 1.1.C.D

SITE SPECIFIC

EFFICIENCY / MULTIPLIER ANALYSIS

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLF

PERCENT OF INFLUENCE ON CHART MANHOURS

	40%	50%	60%	70%	80%	90%	100%	105%	110%	% OF NFLUENCE	WT'D VALUE	PROD. RESULT
CRAFT SKILL (NOTE 1)	POOR			FAIR			STD	V.GOOD	EXCELLENT	90.0%	12.0%	0.108
CRAFT AVAIL.(NOTE 1)		POOR		FAIR			STD			100.0%	8.0%	0.08
CLIMATE (NOTE 2)	SEVERE	ICE/SNOW			RAIN		+40 TO +85			80.0%	20.0%	0.16
PLANT ELEVATION		OVER 10,000FT			5,000' TO 10,000 FT		UNDER 5,000 FT			100.0%	5.0%	0.05
WORK SPACE				200 SF	250 SF	300 SF	350 SF			100.0%	10.0%	0.1
	<---- MULTIPLE SHIFTS-											
WORK WEEK						5-10s per Means R010-110				85.0%	15.0%	0.1275
50 HOUR WORK WEEK	////////// ////// MULTIPLE-SHIFT //////////	//////////	//////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS				0.0%	0.0%	0
60 HOUR WORK WEEK	////////// //////////	////////// //////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS					0.0%	0.0%	0
SHIFTWORK 2ND SHIFT 3RD SHIFT			 3RD SHIFT		 2ND SHIFT		OR ONE SHIFT ONLY			 100.0% 100.0%	 3.0% 5.0%	 0.03 0.05
PROJECT SIZE					400M MH AND UP	300M TO 400M MH	200M TO 300M MH	200M MH OR LESS		105.0%	4.0%	0.042
PLANT TYPE				REVAMP ONLY	REVAMP & NEW	NEW IN EXIST PLT	GRASS ROOTS			95.0%	8.0%	0.076
AREA/UNION INFLUENCE	STRONG		MILD		SOME		NONE			80.0%	10.0%	0.08
											100.0%	90.4%

NOTES.....
1. TURNOVER HAS BEEN CONSIDERED

2. FOR EXTERIOR WORK ONLY

EFFICIENCY (AS A % OFF CHART MANHOURS) 90.4%

MULTIPLIER - (TO BE APPLIED TO CHART M.H.'S TO OBTAIN SITE M.H.'S) 1.11

EFFICIENCY FACTORS

PROJECT: Baseline OSDF CELL #5 CAP, FY08
ESTIMATE NO. C2-01-05-05-F8
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLF

EXAMPLE:

STANDARD CHART MANHOURS =	NET	100
EFFICIENCY FACTORS:		
* SITE SPECIFIC (SEE APPENDIX A)	[redacted]	11.0
S/T = BASE UNIT MANHOURS		111
OVERTIME PRODUCTIVITY FACTOR	0.00%	0
(SEE DETAIL WORKSHEET BACK-UP)		111
* TASK SPECIFIC (confined space, high elevation, congestion, etc.)	0.0%	0
		111

* PPE SPECIFIC (Based on current data and estimating knowledge)

	PPE LEVEL									
	D		Mod.'D'		Mod. "C"		C		C+	
PRODUCTIVITY HOURS		MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's
(AS A %) / ADD MH's	5.00%	6	27.00%	30	64.00%	71	72.00%	80	96.00%	107
(AS A MULTIPLIER)/TOTAL HRS	1.05	116.6	1.27	141	1.64	182	1.72	190.9	1.96	217.6
TOTAL MULTIPLIER w/SITE PROD.	1.1655		1.4097		1.8204		1.9092		2.1756	

NOTE : Use the Default Productivity Factor of 'mC' for working in a contaminated area if the Safety Level cannot be determined.

(SEE FD FERNALD ESTIMATING SERVICES REFERENCE MANUAL IM-6006 8.10)

Total hours worked in a specific PPE level divided by 10 hour working days = (PPE) ManDays to determine material cost of PPE's.
(SEE APPENDIX C - HEALTH PHYSICS)

	12.0	Man Days	14.0	Man Days	18.0	Man Days	19.0	Man Days	22.0	Man Days

THESE EFFICIENCY FACTORS WERE APPLIED INDIVIDUALLY THROUGHOUT THE ESTIMATE AT A TASK SPECIFIC LEVEL, TO OBTAIN A MORE ACCURATE ACCOUNT OF OVERALL EFFICIENCY IMPACT DUE TO PPE REQUIREMENTS IN HANDLING CONTAMINATED AND HAZARDOUS WASTE.

EFFICIENCY FACTORS

PROJECT: Baseline OSDF CELL #5 CAP, FY08
ESTIMATE NO. C2-01-05-05-F8
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLF

PPE MULTIPLIER DEVELOPEMENT

		D	mD	mC	C	C+
CREW SIZE & MAKE-UP	STANDARD	7	7	7	7	7
	WORKER-BUDDY	0	0	0	0	0
	SUPPORT TEAM	0	0	0	0	0
	TOTAL CREW	7	7	7	7	7
CREW SIZE RATIO		1.00	1.00	1.00	1.00	1.00
AVAILABLE WORK TIME FACTOR		0.95	0.79	0.71	0.71	0.68
PPE LABOR PRODUCTIVITY FACTOR		1	1	0.86	0.82	0.75
NET PRODUCTIVITY RATIO		0.95	0.79	0.611	0.582	0.51
NET PRODUCTIVITY MULTIPLIER		1.05	1.27	1.64	1.72	1.96

These factors were based on Tables 6.1 and 6.2, Moderate Work Efforts, 66F to 85F temperature of 'Hazardous Waste Cost Control' by R.A.Selg. Modifications were made to reflect a 10 hour work day and no buddy system or support team for levels D, mC and C.
The worker-buddy and support team members, if required, may be covered under Construction Mgmt. (Rad Techs).

AVAILABLE WORK TIME FACTOR		D	mD	mC	C	C+
TOTAL WORK MINUTES per [5 - 10's		600	600	600	600	600
ADDITN'L.SITE SAFETY MEETINGS NOT INCLD. IN BAS	QUANTITY	1	1	1	1	1
	MINUTES	25	25	25	25	25
TOTAL		25	25	25	25	25
PPE DON & DOFFING	QUANTITY	0	0	3	3	3
(ADJUST LEVEL D per WORK PLAN)	MINUTES	0	0	15	15	20
TOTAL			0	45	45	60
WORK BREAKS	QUANTITY	N/A	2	2	2	2
(ADJUST LEVEL D per WORK PLAN)	MINUTES	N/A	15	15	15	15
TOTAL			30	30	30	30
MOBILIZATION - ROUND TRIPS	QUANTITY	N/A	4	4	4	4
(ADJUST LEVEL D per WORK PLAN)	MINUTES	N/A	15	15	15	15
TOTAL			60	60	60	60
COOLDOWNS PER DAY	QUANTITY	2	3	4	4	4
** (2 OUT OF 8 MONTHS) 25.00%	MINUTES	10	12	15	15	15
TOTAL		5	9	15	15	15
AIR TANK REPLACEMENT	QUANTITY	N/A	N/A	N/A	N/A	N/A
	MINUTES	N/A	N/A	N/A	N/A	N/A
TOTAL						
AVAILABLE WORK TIME		570	476	425	425	410
AVAILABLE WORK TIME FACTOR		0.95	0.79	0.71	0.71	0.68

NOTE: Adjust 'Work Minutes per Day' basis to: 5 - 8's, or leave as 4 - 10's. Any other circumstances, over-ride the minutes per day.

** Assumption based on work performed in May, June, July & August, pro-rating cost over one year. Adjust % to individual circumstances. Changed to July & August over an 8 mth period.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: Baseline OSDF CELL #5 CAP, FY08
ESTIMATE NO. C2-01-05-05-F8
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLF

PPE"s - PERSONAL PROTECTIVE EQUIPMENT

DESCRIPTION	UNIT	UNIT COST	* NO. OF CHANGE OUTS PER WORKER PER DAY	Man Days (TOTAL HOURS worked in PPE's Div. by WORK HOURS / DAY)			
PPE LEVEL C / C+ / B : F/HF MASK w/RESP.&CART.			*	MAN DAYS	MAT'L.$'s	PPE LEVEL	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	(DOUBLE PPE)
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	C / C+	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	C / C+	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	C / C+	
APR CARTRIDGES - DISPOSABLE	PR	$6.98	3	0	$0	C / C+	
SUB-TOTAL		$17.42	3		$0		
				$/MD =	$0.00		
PPE LEVEL mC : FULL DRESS w/ FACE SHIELD				MAN DAYS	MAT'L.$'s	PPE LEVEL	
LT.WT. DISPOSABLE COVERALLS W/HOOD & BOOTIE	PR	$4.46	3	0	$0	mC	
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	mC	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	mC	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	mC	
SUB-TOTAL		$5.98	3		$0		
				$/MD =	$0.00		
SUBCONTRACTOR REQUIRED PURCHASES			QTY. PER WKR.	NO. OF WORKERS	MAT'L.$'s	PPE LEVEL	
RUBBER BOOT COVERS-(1)PR.PER WORKER	PR	$12.70	2	8	$203	D/C/B	
APR w/HALF FACE MASK - (1) PER WORKER	EA	$22.30	6	0	$0	C	
APR w/FULL FACE MASK - (1) PER WORKER	EA	$174.00	6	0	$0	C	
SCBA	EA	$1,894.00	2	0	$0	B	
COOL VESTS	EA	$137.50	6	0	$0	C/B	
THERMO STRIPS	EA	$50.00	6	0	$0	C/B	
SUB-TOTAL					$200		

	MAT'L.$'s
TOTAL PPE's =	$200

(FORWARD TO PAGE 2 OF 2)

OTHER PPE's SUCH AS HARD HAT, SAFETY GLASSES/GOGGLES, STEEL TOED SAFETY SHOES, HEARING PROTECTION, ARE CONSIDERED THE SUBCONTRACTORS RESPONSIBILITY AND ARE COVERED IN HIS OVERHEAD EXPENSE.
COSTS OF FD FERNALD SUPPLIED PPE's, SUCH AS COTTON COVERALLS, EXCHANGE OF RUBBER BOOT COVERS AND RESPIRATORS FOR CHANGEOUTS AND CLEANING OF SAME IS INCURRED BY FD FERNALD AND COSTS ARE NOT INCLUDED AS PART OF PROJECT COSTS AT THIS TIME.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: Baseline OSDF CELL #5 CAP, FY08
ESTIMATE NO. C2-01-05-05-F8
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLF

--MEDICAL MONITORING --

MEDICAL - PHYSICAL and IN-VIVO MONITORING - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION PHYSICAL (3hrs), IN-VIVO (1hr)	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $
BASELINE PHYSICALS	1	4	0	0	$27.41	$0
ANNUAL PHYSICALS	0	4	0	0	$27.41	$0
EXIT (TERMINATION) PHYSICALS (IN-VIVO)	1	1	0	0	$27.41	$0
SUB-TOTAL						$0

RADIATION IN-VITRO SURVEILLANCE - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $
BI-MONTHLY BIOASSAY	6	1	0	0	$27.41	$0
SUB-TOTAL						$0

RANDOM DRUG TESTING

	TESTS	HRS	TOTAL HOURS	AVG. RATE	LABOR $'s
	15	2	30	$27.41	$800

NO. OF WKRS. TESTED	TESTING DAYS PER YR.	AVG. NO. OF TESTS PER DAY	CHANCE/ DAY FOR TEST	NO. OF WKRS. FOR THIS ESTIMATE	CHANCES /DAY FOR TEST FOR PROJECT	CONSTR WORKING DAYS
2340	226	10	0.0042735	25	0.1068	145

		LABOR $'s THRU SAFETY	LABOR $'s
WORK DELAYS CAUSED BY MONITORING	0.5%	$408,650	$2,000
			LABOR $'s
WORK DELAYS CAUSED BY RAD CHECKING	0.5%	$408,650	$2,000

	TOTAL LABOR	TOTAL MAT'L.	GRAND TOTAL
TOTAL HEALTH PHYSICS	$4,800	$200	$5,000

(FORWARD TO ESTIMATE SUMMARY SHEET)

ACTIVITY DURATIONS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #5 CAP, FY08
ESTIMATE NO. C2-01-05-05-F8
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLF

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION	Days per Schedule	
						Each Year		
Biointrusion	04-May-01	03-Mar-08	27-Jun-08	22-Oct-08	7.7	MONTHS	164	77.7%
Filter, Veg layer, Veg		16-Oct-08	18-Nov-08	22-Dec-08	2.2	MONTHS	45	22.3%
TOTAL					9.9	MONTHS		
					10.0		209	

	DATE of EST. to MID-POINT ACTIVITY DURATION	
a.	85.9	MONTHS
b.	1308	MONTHS

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION
OPERATIONS					0	MONTHS

DATE of EST. to MID-POINT ACTIVITY DURATION	
0	MONTHS

ACTIVITY DURATION IS USED IN DETERMINING NUMBER of WORKERS for CERCLA/SAT TRAINING HOURS and HEALTH PHYSICS COSTS.

CCPLG

OSDF CELL #6 LINER

09/07/2001
11:37 AM

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

PBS: OHFN03
WBS: 1.1.C.D
CTRL ACCT: CCPL
CHARGE NO: CCPLG
COMMENT NO N/A

DATE: 05-Sep-01
PROJECT MGR: JD Chiou
CAM: JD Chiou
PREPARED BY: w. F. Fick
FISCAL YEAR: 2005-2007

Resource: FIELDSUB **FIELD SUBS** **EOC:** SUBCONTRACTORS
Res Dept: 949 **Overtime:** **Class:** SUB

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Units:	0.0	0.0	0.0	0.0	0.0	3,289,771.3	733,018.7	0.0	0.0	0.0
Cum Units:	0.0	0.0	0.0	0.0	0.0	3,289,771.3	4,022,790.0	4,022,790.0	4,022,790.0	4,022,790.0
Yr Total Cost:	0	0	0	0	0	3,773,186	865,113	0	0	0
Cum Total Cost:	0	0	0	0	0	3,773,186	4,638,299	4,638,299	4,638,299	4,638,299

Resource: WISE **WISE CONSTRUCTION** **EOC:** SUBCONTRACTORS
Res Dept: 949 **Overtime:** **Class:** SUB

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Units:	0.0	0.0	0.0	0.0	123,740.0	0.0	0.0	0.0	0.0	0.0
Cum Units:	0.0	0.0	0.0	0.0	123,740.0	123,740.0	123,740.0	123,740.0	123,740.0	123,740.0
Yr Total Cost:	0	0	0	0	137,923	0	0	0	0	0
Cum Total Cost:	0	0	0	0	137,923	137,923	137,923	137,923	137,923	137,923

GRAND TOTALS:

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Total Cost:	0	0	0	0	137,923	3,773,186	865,113	0	0	0
Cum Total Cost:	0	0	0	0	137,923	3,911,109	4,776,222	4,776,222	4,776,222	4,776,222

CAM _____ CONTROL TEAM _____

INCLUDES ESCALATION COSTS

CCRLG

Fluor Fernald, Inc.

PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #6 Liner
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-01-G5, G6, & G7

BASIS OF ESTIMATE

SUPPORTING DOCUMENTATION:

Verbal Scope	☒	P & ID's	☐	Work Plan	☐
Drawings	☐	Equipment List	☐	Site Walk	☐
Sketches	☐	Specifications	☐	Eng. Mtg.	☒
Flow Diagrams	☐	Written Scope	☒	Estimate	☐

TYPE OF ESTIMATE:

Change Proposal	☐	Government	☐
Plan/Feasibility	☐	Conceptual	☐
Construction	☐	Title I Design	☐
Budget	☒	Independent	☐

BASIS OF ESTIMATE:

These estimates present the baseline cost for construction of the OSDF Cell #6 liner. These three estimates comprise the Horizontal Monitoring Well FY05, Liner Placement FY06, and Video & Demobilization including close-out FY07. The included scope is from the Baseline Closure Plan and associated supporting documents. Durations are from the OSDF schedules and are presented in Appendix D. Control and Management is not included in these estimates; it is, however, included in a separate C & M estimate. Surveying by a three person sub-contractor crew at $140/hour is included. Both the surveying and project staffing costs are allocated among the various simultaneous OSDF projects per the OSDF documents and chart. Equipment operating costs assume an 85% operations factor unless otherwise indicated. Geo-synthetics (GML, Geotextile, etc.) are purchased by Fluor Fernald. Deployment of the geo-synthetics is by the sub-contractor. Welding and sewing is by a specialty contractor.

Fluor Fernald, Inc.
PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #6 Liner
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-01-G5, G6, & G7

ESTIMATE ASSUMPTIONS

EXECUTION:

- ☒ This project is to be performed on a 50-hour week, 10 hours a day.
- ☐ This project is to be performed on a 40-hour week, 8 hours a day.
- ☒ Premium time allowed.

WAGE RATES:

- ☒ Wage rates within this estimate are based on Project Labor Agreement rates, effective October 2000 and are considered FY01 dollars for estimating.
- ☐ Wage rates within this estimate are based on FF Support Contractor FSC 645 wage rates, effective January 30, 2001 and are considered FY01 dollars for estimating.
- ☐ Wage rates within this estimate are based on FF FTE Planning Labor Rates FY01.

ENGINEERING:

- ☒ N/A
- ☐ Engineering dollars provided by the Project Engineer.
- ☐ Engineering dollars have been factored in at the standard 12% of the total direct and indirect field costs as per request of Project Engineer.

CONSTRUCTION MANAGEMENT:

- ☐ N/A
- ☒ Construction Management staffing by discipline has been included.
- ☐ Construction Management dollars have been factored in at the standard 30% of the total direct and indirect field costs as per request of Project Engineer.

PROJECT MANAGEMENT:

- ☒ N/A
- ☐ Project Management dollars provided by the Project Engineer.
- ☐ Project Management dollars have been factored in at the standard 30% of the total direct and indirect field costs as per request of Project Engineer.

Fluor Fernald, Inc.
PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #6 Liner
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-01-G5, G6, & G7

WASTE PROGRAM MANAGEMENT:

☒ N/A
☐ Waste Program Management dollars provided by the Project Engineer.

PRODUCTIVITY:

A productivity factor has been developed and applied to the unit man-hours derived from MEANS, Richardson, NECA, and or any other published estimating source. See attachment APPENDIX "A" and APPENDIX "B".

ESCALATION:

Escalation costs are excluded from the target estimate. The escalation costs are calculated within the Micro-Frame computer system according to the plan for rebaselining.

UNIT RATES:

Unit man-hours and material dollars are based on Richardson, MEANS, NECA, National Constructor, historical data at Fernald, and or other published rates. Some man-hours and equipment requirements are provided by engineering and CM. Equipment rental rates and hourly operating costs are from the Blue Book Volume 1.

G & A (HO EXPENSE):

G & A are excluded from the target estimate. The G & A cost are calculated within the Micro-Frame computer system according to the plan for rebaselining.

HEALTH PHYSICS:

See attached APPENDIX "C".

RISK BUDGET:

N/A

CONTINGENCY:

N/A

Fluor Fernald, Inc.
PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #6 Liner
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-01-G5, G6, & G7

ESTIMATE INCLUSIONS & EXCLUSIONS

INCLUSIONS:

- Mobilization.
- Demobilization.
- Labor hours.
- Material dollars.
- Equipment rental.
- Equipment operating.
- Contractor staffing.
- Geosynthetics purchase by FF.

EXCLUSIONS:

- Permits and fees.
- FF G & A (Home Office Expense).
- Escalation due to volatile petroleum costs.
- Any second tier subcontract costs.
- Project Management dollars.
- Waste Management dollars.
- Control & Management
- Landlord costs.

ESTIMATE SUMMARY SHEET

FLUOR FERNALD

PROJECT:	OSDF BASELINE CELL 6 LINER CCPLG FY05	DATE:	17-May-01
ESTIMATE #:	C2 -01-05-01-G5	ESTIMATOR:	RIS
CLIENT:	DOE	LOCATION:	FERNALD
WBS #:	1.1.C.D	TASK NO.:	CCPLG

ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	EQUIP. $	TOTAL $
Submittals	25		$600		$200		$800
Overhead and Profit				$20,340			$20,340
Mobilization	12		$310				$310
Horizontal Monitoring Well	755		$20,550		$3,440	$21,770	$45,760
Survey				$9,810			$9,810
Project Staffing	590		$19,237				$19,237
DIRECT FIELD COSTS TOTAL	**1,382**	**$29.45**	**$40,697**	**$30,150**	**$3,640**	**$21,770**	**$96,257**
SUPERVISION - CONTRACTOR							
SMALL TOOLS & CONSUMABLES	-	-	-		$600		$600
MISC. EQUIP. RENTAL	-	-	-			$2,000	$2,000
TEMPORARY FACILITIES incl w/Mobilization							
TEMPORARY UTILITY HOOK-UP incl w/Mobilzation							
JOB CLEAN-UP incl w/Job Close-out							
PER DIEM / SUBSISTANCE	-	-	-				
HEALTH PHYSICS S/C incl w/Submittals							
CERCLA - TRAINING incl w/Submittals							
GET/SITE ACCESS & JOB SPECIFIC TRAINING w/su							
PAYROLL BURDENS & BENEFITS	-	-	$23,200				$23,200
OVERHEAD & PROFIT	-	-	-				
BOND	-	-	-				
SALES TAX	-	-	-		$300	$1,400	$1,700
INDIRECT FIELD COSTS TOTAL			**$23,200**		**$900**	**$3,400**	**$27,500**
DIRECT & INDIRECT FIELD COSTS TOTAL	**1,382**	**$46.24**	**$63,897**	**$30,150**	**$4,540**	**$25,170**	**$123,757**
TARGET ESTIMATE			**(FY 01 DOLLARS)**				**$123,800**

ESTIMATE PERFORMED BY ESTIMATING SERVICES

ESTIMATE SUMMARY SHEET

PROJECT: OSDF BASELINE CELL 6 LINER CCPLG FY

DATE: 17-May-01

ESTIMATE NO. C2 -01-05-01-G5

FACTORS

ESTIMATOR: RIS

CLIENT: DOE

LOCATION: FERNALD

WBS NO.: 1.1.C.D

TASK NO.: CCPLG

FIXED PRICE :	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
DFC DOLLARS	$40,697	$30,150	$3,640	$21,770		$96,257
IFC COST FACTOR	1.5701	–	1.1648	1.0919	–	
BOND + OVERHEAD & PROFIT COST FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	
SALES TAX	-	-	1.0600	1.0600	1.0600	
DIRECT FIELD COST FACTOR =	1.5701	1.0000	1.2347	1.1574	1.0600	
BASE ESTIMATE $'S	$63,897	$30,150	$4,494	$25,196		$123,738
BASE FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	
TARGET ESTIMATE FACTOR	1.5701	1.0000	1.2347	1.1574	1.0600	
FPS TARGET ESTIMATE (FY00 $)	$63,897	$30,150	$4,494	$25,196		$123,738

NOTE:

IF THERE ARE NO DFC EQUIP. $, ENTER THE IFC EQUIP. $'S INTO THE DIRECT FIELD COST TOTAL AND DELETE IFC FACTOR IN G65.

ESTIMATE SUMMARY SHEET

PROJECT: OSDF BASELINE CELL 6 LINER CCPLG FY(
DATE: 17-May-01
ESTIMATE NO. C2 -01-05-01-G5
ESTIMATOR: RIS
CLIENT: DOE
LOCATION: FERNALD
WBS NO.: 1.1.C.D
TASK NO.: CCPLG

DIRECT FIELD COST W/FACTORS

PAY ITEM NO.	DESCRIPTION	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
		(ASSIGN OR PRORATE PPE MAT'L.$'S)-->>					
	Submittals	600		200			
		$940		$250			$1,190
	Overhead and Profit		20340				
			$20,340				$20,340
	Mobilization	310					
		$490					$490
	Horizontal Monitoring Well	20550		3440	21770		
		$32,260		$4,250	$25,200		$61,710
	Survey		9810				
			$9,810				$9,810
	Project Staffing	19237					
		$30,200					$30,200
TOTAL DIRECT FIELD COSTS W/FACTORS		**(FY01 DOLLARS)**					**$123,740**

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 6 LINER CCPLG FY05
ESTIMATE NO.: C2 -01-05-01-G5
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

ITEM NO.	SUMMARY	QTY	UNIT	MAN-HOURS			COST / UNIT				LABOR	S/C	MAT'L	EQUIP	TOTAL
				Unit	Total	Rate	Labor	S/C	Mat'l	Equip					
	Submittals				25						$600		$200		$800
	Overhead and Profit											$20,340			$20,340
	Mobilization				12						$310				$310
	Horizontal Monitoring Well				755						$20,550		$3,440	$21,770	$45,760
	Survey											$9,810			$9,810
	Project Staffing				590						$19,237				$19,237
	Subtotal Direct Cost	1	LOT		1,362	$29.45					$40,697	$30,150	$3,640	$21,770	$96,257

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 6 LINER CCPLG FY05
ESTIMATE NO.: C2 -01-05-01-G5
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

ITEM NO.			QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Insurance & Bond								COST							
	Performance bond	1.3%							THRU							
	Insurance	1.5%							OH & P							
	Sub-total	2.8%							122061							
	Reported w/ FY 05 = $3,420															
	Submittals															
D	Health Physics					25	23.64					$600		$200		$800
	Sub-total					25						$600		$200		$800
	Overhead and Profit				20%								$20,340			$20,340

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 6 LINER CCPLG FY05
ESTIMATE NO.: C2 -01-05-01-G5
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

	Mobilization	QTY	UNIT	MAN-HOURS			COST/UNIT				LABOR	S/C	MAT'L	EQUIP	TOTAL
				Unit	Total	Rate	Labor	S/C	Mat'l	Equip					
	Mobilization														
D	Dozer D6	1	ea		3	27.03					$80				$80
D	Smooth drum Roller, Cat 563	1	ea		3	27.03					$80				$80
D	Excavator Cat 330	1	ea		3	27.03					$80				$80
D	Waterwagon Cat 613	1	ea		3	22.86					$70				$70
	Mobilization				12						$310				$310

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 6 LINER CCPLG FY05
ESTIMATE NO.: C2 -01-05-01-G5
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

ITEM NO.	Horizontal Monitoring Well		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Receive HDPE pipe, geotextile, & drainage matl															
D	operator		0.5	DAY	10	5	27.03					$140				$140
D	2 laborer		0.5	DAY	10	10	22.65					$230				$230
	Forklift Cat TH83	1/2 da	0.02	MTH							3765				$90	$90
	Forklift Cat TH84 @85%			HR	8.5						12.45				$110	$110
	Install HDPE pipe, geotex, & drainage stone															
D	laborer	2 wk	10.0	DAY	10	100	22.65					$2,260				$2,260
D	2 pipefitter	2 wk	10.0	DAY	10	200	29.62					$5,920				$5,920
D	1 operator	4 wk	20.0	DAY	10	200	27.03					$5,410				$5,410
D	2 operator	2 wk	10.0	DAY	10	200	27.03					$5,410				$5,410
	Excavator Cat 330	2 wk	0.46	MTH							11490				$5,300	$5,300
	Dozer Cat D6	4 wk	0.92	MTH							7040				$6,500	$6,500
	Smooth drum roller Cat 563	2 wk	0.46	MTH							4335				$2,000	$2,000
	Excavator Cat 330 @85%		85%	HR	85						32.15				$2,730	$2,730
	Dozer, D6 @85%		85%	HR	170						21.87				$3,720	$3,720
	Smooth drum roller Cat 563		85%	HR	85						15.48				$1,320	$1,320
	Tie-in HDPE pipe to stub-outs fr valve house #4															
D	2 pipefitters		2	DAY	10	40	29.62					$1,180				$1,180
	Well casing		1	EA						100				$100		$100
	Gravel		60	TON						13				$780		$780
	Geotextile cushion, 7 oz		1,600	SF						0.06				$100		$100
	Pipe, 6" HDPE		160	LF						2.87				$460		$460
	Pipe, 6" HDPE, perf		80	LF						3.17				$250		$250
	Pipe, 10" HDPE		160	LF						7.69				$1,230		$1,230
	Tee, 6" HDPE		1	EA						66.7				$70		$70
	Tee, 6" 90 el		2	EA						56.1				$110		$110
	Bentonite		3	BAG						5				$20		$20
	12" Concrete riser pipe		20	LF						7.65				$150		$150
	12" PVC ris 20LF & 1 el		1	LOT						166				$170		$170
	Horizontal Monitoring Well					755						$20,550		$3,440	$21,770	$45,760

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 6 LINER CCPLG FY05
ESTIMATE NO.: C2 -01-05-01-G5
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
D	Survey 1.4 MTH							68000				$9,810			$9,810
	Survey	1	LOT									$9,810			$9,810

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 6 LINER CCPLG FY05
ESTIMATE NO.: C2 -01-05-01-G5
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

ITEM NO.			QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Project Staffing		Shared percent													
D	Project Manager	1.9 mth	20%	hr	1	31	54.42					$1,692				$1,692
D	General Superintendent	1.9 mth	20%	hr	1	31	37.85					$1,177				$1,177
D	Superintendent	1.9 mth	25%	hr	2	139	32.99					$4,579				$4,579
D	Project Engineer	1.9 mth	40%	hr	1	111	33.19					$3,685				$3,685
D	Quality Engineer	1.9 mth	25%	hr	2	139	28.05					$3,893				$3,893
D	Safety Engineer	1.9 mth	25%	hr	2	139	30.34					$4,211				$4,211
D	Office Administration	in overhead					19.31									
D	Contract Administration/ Schedu	in overhead					25.58									
D	Clerical	in overhead					14.58									
	TOTAL					590	32.63					$19,237				$19,237

APPENDIX "C"

HEALTH PHYSICS

PROJECT: OSDF BASELINE CELL 6 LINER CCPLG FY05
ESTIMATE NO.: C2 -01-05-01-G5
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

PPE"s - PERSONAL PROTECTIVE EQUIPMENT

DESCRIPTION	UNIT	UNIT COST	* NO. OF CHANGE OUTS PER WORKER PER DAY				
			Man Days (TOTAL HOURS worked in PPE's Div. by WORK HOURS / DAY)				
PPE LEVEL C / C+ / B : F/HF MASK w/RESP.&CART.			*	MAN DAYS	MAT'L.$'s	PPE LEVEL	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	(DOUBLE PPE)
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	C / C+	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	C / C+	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	C / C+	
APR CARTRIDGES - DISPOSABLE	PR	$6.98	3	0	$0	C / C+	
SUB-TOTAL		$17.42	3		$0		
				$/MD =	$0.00		
PPE LEVEL mC : FULL DRESS w/ FACE SHIELD				MAN DAYS	MAT'L.$'s	PPE LEVEL	
LT.WT. DISPOSABLE COVERALLS W/HOOD & BOOTIES	PR	$4.46	3	0	$0	mC	
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	mC	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	mC	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	mC	
SUB-TOTAL		$5.98	3		$0		
				$/MD =	$0.00		
SUBCONTRACTOR REQUIRED PURCHASES			QTY. PER WKR.	NO. OF WORKERS	MAT'L.$'s	PPE LEVEL	
RUBBER BOOT COVERS-(1)PR.PER WORKER	PR	$12.70	2	8	$203	D/C/B	
APR w/HALF FACE MASK - (1) PER WORKER	EA	$22.30	6	0	$0	C	
APR w/FULL FACE MASK - (1) PER WORKER	EA	$174.00	6	0	$0	C	
SCBA	EA	$1,894.00	2	0	$0	B	
COOL VESTS	EA	$137.50	6	0	$0	C/B	
THERMO STRIPS	EA	$50.00	6	0	$0	C/B	
SUB-TOTAL					$200		

	MAT'L.$'s
TOTAL PPE's =	$200

(FORWARD TO PAGE 2 OF 2)

OTHER PPE's SUCH AS HARD HAT, SAFETY GLASSES/GOGGLES, STEEL TOED SAFETY SHOES, HEARING PROTECTION, ARE CONSIDERED THE SUBCONTRACTORS RESPONSIBILITY AND ARE COVERED IN HIS OVERHEAD EXPENSE.
COSTS OF FD FERNALD SUPPLIED PPE's, SUCH AS COTTON COVERALLS, EXCHANGE OF RUBBER BOOT COVERS AND RESPIRATORS FOR CHANGEOUTS AND CLEANING OF SAME IS INCURRED BY FD FERNALD AND COSTS ARE NOT INCLUDED AS PART OF PROJECT COSTS AT THIS TIME.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: OSDF BASELINE CELL 6 LINER CCPLG FY05
ESTIMATE NO.: C2 -01-05-01-G5
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

--MEDICAL MONITORING --

MEDICAL - PHYSICAL and IN-VIVO MONITORING - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION PHYSICAL (3hrs), IN-VIVO (1hr)	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $
BASELINE PHYSICALS	1	4	0	0	$29.45	$0
ANNUAL PHYSICALS	0	4	0	0	$29.45	$0
EXIT (TERMINATION) PHYSICALS (IN-VIVO)	1	1	0	0	$29.45	$0
SUB-TOTAL						$0

RADIATION IN-VITRO SURVEILLANCE - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $
BI-MONTHLY BIOASSAY	6	1	0	0	$29.45	$0
SUB-TOTAL						$0

RANDOM DRUG TESTING

	TESTS	HRS	TOTAL HOURS	AVG. RATE	LABOR $'s
	3	2	6	$29.45	$200

NO. OF WKRS. TESTED	TESTING DAYS PER YR.	AVG. NO. OF TESTS PER DAY	CHANCE/ DAY FOR TEST	NO. OF WKRS. FOR THIS ESTIMATE	CHANCES /DAY FOR TEST FOR PROJECT	CONSTR WORKING DAYS
2340	226	10	0.004274	25	0.1068	28

		LABOR $'s THRU SAFETY	LABOR $'s
WORK DELAYS CAUSED BY MONITORING	0.5%	$40,097	$200
			LABOR $'s
WORK DELAYS CAUSED BY RAD CHECKING	0.5%	$40,097	$200

	TOTAL LABOR	TOTAL MAT'L.	GRAND TOTAL
TOTAL HEALTH PHYSICS	$600	$200	$800

(FORWARD TO ESTIMATE SUMMARY SHEET)

APPENDIX "D"

ACTIVITY DURATIONS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 6 LINER CCPLG FY05
ESTIMATE NO. C2 -01-05-01-G5
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION	Days per Schedule	
						Each Year		
Monitoring Well	04-May-01	18-Aug-05	08-Sep-05	30-Sep-05	1.4	MONTHS	31	14.4%
Liner		03-Apr-06	13-Jul-06	23-Oct-06	6.7	MONTHS	142	68.1%
Video & Demob		07-Nov-06	03-Dec-06	29-Dec-06	1.7	MONTHS	34	17.4%
TOTAL					9.8	MONTHS		
					10.0		207	

	DATE of EST. to MID-POINT ACTIVITY DURATION	
a.	52.3	MONTHS
b.	1285	MONTHS

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION
OPERATIONS					0	MONTHS

DATE of EST. to MID-POINT ACTIVITY DURATION	
0	MONTHS

ACTIVITY DURATION IS USED IN DETERMINING NUMBER of WORKERS for CERCLA/SAT TRAINING HOURS and HEALTH PHYSICS COSTS.

TRAINING

PROJECT:	OSDF BASELINE CELL 6 LINER CCPLG FY05	DATE:	17-May-01
ESTIMATE #:	C2 -01-05-01-G5	ESTIMATOR:	RIS
CLIENT:	DOE	LOCATION:	FERNALD
WBS #:	1.1.C.D	TASK #:	CCPLG

FLUOR FERNALD

Site Access Training Requirements (RM-0055 Rev. 1 Effective: 09/30/99)

Training Requirements	Non-Hazardous	Occasional Site Worker	General Site Worker		
Access Area	Administrative Support Area	Controlled Area	Contamination Compound	Frequency	
	8 Hour	24 Hour Hazwoper	40 Hour Hazwoper		
General Employee Training	X	X	X	Annually	
Site Worker Training		X	X	One Time	
Rad. Worker I		X		Biennially	
Rad. Worker II			X	Biennially	
Respirator Training *			X	Annually	
Respirator Fit Testing *			X	Annually	
Supervised Field Experience	0 HR	8 HR	24 HR	One time →	*On the Job*
Site Worker Refresher		X	X	Annually ⇨	4 Hour
Rad. Worker I Retraining		X		Every 2 years ⇨	4 Hour
Rad. Worker II Retraining			X	Every 2 years ⇨	8 Hour

Additional Training	HRS	No. of Workers	Total Hours
Job Specific Training =	2	7	14
Fire Watch Training =	1	2	2
Lead Worker Training =	4	7	28
Lock out / Tag out Training =	8	3	24
Rigging Training =	24	4	96
Scaffold Training =	16	4	64

DURATION	10 Month(s)		
Average Rate $	29.45		
Number of General Site Worker(s)	1	General Site Worker Training Cost	$1,196
Number of Occasional Site Worker(s)	1	Occasional Site Training Cost	$707
Number of Non-Hazardous Worker(s)	1	Non-Hazardous Training Cost	$236
		Additional Training Cost	$6,714
Total Training Hours	301	Total Training Cost =	$8,854

* = All employees classified as General Site Worker must initially take respirator training. The annual requirement for the repeat of training and the fit test frequency requirements are only needed by those employees that are required to wear a respirator.

ESTIMATE SUMMARY SHEET

FLUOR FERNALD

PROJECT:	OSDF BASELINE CELL 6 LINER CCPLGFY06	DATE:	17-May-01
ESTIMATE #:	C2 -01-05-01-G6	ESTIMATOR:	RIS
CLIENT:	DOE	LOCATION:	FERNALD
WBS #:	1.1.C.D	TASK NO.:	CCPLG

ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	EQUIP. $	TOTAL $
Insurance & Bond				$107,820			$107,820
Submittals	2,626		$100,430		$200		$100,630
Overhead and Profit				$590,360			$590,360
Mobilization	70		$1,650	$3,690	$4,600		$9,940
Off Hours Dust Control				$20,000			$20,000
Survey				$46,300			$46,300
Erosion & Sed Control	60		$1,450			$1,370	$2,820
Site Preparation	3,590		$86,700		$25,370	$202,630	$314,700
Clay Liner	3,708		$89,150		$260	$182,170	$271,580
Geosynthetics Purchase by FF				$649,930			$649,930
Secondary Liner	2,775		$64,420	$87,900	$9,000	$37,460	$198,780
Primary Liner	2,400		$57,420	$271,500	$9,190	$32,360	$370,470
Secondary Drainage	1,400		$34,390		$146,100	$57,360	$237,850
Primary Drainage	1,550		$38,490		$157,220	$60,310	$256,020
Leak Detection Testing	150		$3,600	$18,600		$930	$23,130
Project Staffing	2,783		$90,830				$90,830
DIRECT FIELD COSTS TOTAL	**21,113**	**$26.93**	**$568,530**	**$1,796,100**	**$351,940**	**$574,590**	**$3,291,160**
SUPERVISION - CONTRACTOR							
SMALL TOOLS & CONSUMABLES	-	-	-		$7,000		$7,000
MISC. EQUIP. RENTAL	-	-	-			$27,700	$27,700
TEMPORARY FACILITIES incl w/Mobilization							
TEMPORARY UTILITY HOOK-UP incl w/Mobilzation							
JOB CLEAN-UP incl w/Job Close-out							
PER DIEM / SUBSISTANCE	-	-	-				
HEALTH PHYSICS S/C incl w/Submittals							
CERCLA - TRAINING incl w/Submittals							
GET/SITE ACCESS & JOB SPECIFIC TRAINING w/su							
PAYROLL BURDENS & BENEFITS	-	-	$324,100				$324,100
OVERHEAD & PROFIT	-	-	-				
BOND	-	-	-				
SALES TAX	-	-	-		$21,500	$36,100	$57,600
INDIRECT FIELD COSTS TOTAL			**$324,100**		**$28,500**	**$63,800**	**$416,400**
DIRECT & INDIRECT FIELD COSTS TOTAL	**21,113**	**$42.28**	**$892,630**	**$1,796,100**	**$380,440**	**$638,390**	**$3,707,560**
TARGET ESTIMATE			**(FY 01 DOLLARS)**				**$3,707,600**

ESTIMATE PERFORMED BY ESTIMATING SERVICES

ESTIMATE SUMMARY SHEET

PROJECT: OSDF BASELINE CELL 6 LINER CCPLGFY0 — **DATE:** 17-May-01

ESTIMATE NO. C2 -01-05-01-G6 — **ESTIMATOR:** RIS

CLIENT: DOE — **LOCATION:** FERNALD

WBS NO.: 1.1.C.D — **TASK NO.:** CCPLG

FACTORS

FIXED PRICE $	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
DFC DOLLARS	$568,530	$1,796,100	$351,940	$574,590		$3,291,160
IFC COST FACTOR	1.5701	–	1.0199	1.0482	–	
BOND + OVERHEAD & PROFIT COST FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	
SALES TAX	-	-	1.0600	1.0600	1.0600	
DIRECT FIELD COST FACTOR =	**1.5701**	**1.0000**	**1.0811**	**1.1111**	**1.0600**	
BASE ESTIMATE $'S	$892,630	$1,796,100	$380,476	$638,427		$3,707,634
BASE FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	
TARGET ESTIMATE FACTOR	**1.5701**	**1.0000**	**1.0811**	**1.1111**	**1.0600**	
FPS TARGET ESTIMATE (FY00 $)	$892,630	$1,796,100	$380,476	$638,427		$3,707,634

NOTE:

IF THERE ARE NO DFC EQUIP. $, ENTER THE IFC EQUIP. $'S INTO THE DIRECT FIELD COST TOTAL AND DELETE IFC FACTOR IN G65.

ESTIMATE SUMMARY SHEET

PROJECT: OSDF BASELINE CELL 6 LINER CCPLGFY0 — **DATE:** 17-May-01

ESTIMATE NO. C2 -01-05-01-G6 — **ESTIMATOR:** RIS

DIRECT FIELD COST W/FACTORS

CLIENT: DOE — **LOCATION:** FERNALD

WBS NO.: 1.1.C.D — **TASK NO.:** CCPLG

PAY ITEM NO.	DESCRIPTION	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
		(ASSIGN OR PRORATE PPE MAT'L.$'S)-->>					
	Insurance & Bond		107820				
			$107,820				$107,820
	Submittals	100430		200			
		$157,680		$220			$157,900
	Overhead and Profit		590360				
			$590,360				$590,360
	Mobilization	1650	3690	4600			
		$2,590	$3,690	$4,970			$11,250
	Off Hours Dust Control		20000				
			$20,000				$20,000
	Survey		46300				
			$46,300				$46,300
	Erosion & Sed Control	1450			1370		
		$2,280			$1,520		$3,800
	Site Preparation	86700		25370	202630		
		$136,120		$27,430	$225,140		$388,690
	Clay Liner	89150		260	182170		
		$139,970		$280	$202,410		$342,660
	Geosynthetics Purchase by FF		649930				
			$649,930				$649,930
	Secondary Liner	64420	87900	9000	37460		
		$101,140	$87,900	$9,730	$41,620		$240,390
	Primary Liner	57420	271500	9190	32360		
		$90,150	$271,500	$9,940	$35,960		$407,550
	Secondary Drainage	34390		146100	57360		
		$53,990		$157,950	$63,730		$275,670
	Primary Drainage	38490		157220	60310		
		$60,430		$169,970	$67,010		$297,410
	Leak Detection Testing	3600	18600		930		
		$5,650	$18,600		$930		$25,180
	Project Staffing	90830					
		$142,610					$142,610
TOTAL DIRECT FIELD COSTS W/FACTORS		(FY01 DOLLARS)					$3,707,520

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 6 LINER CCPLGFY06
ESTIMATE NO.: C2 -01-05-01-G6
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

ITEM NO.	SUMMARY	QTY	UNIT	MAN-HOURS			COST / UNIT				LABOR	S/C	MAT'L	EQUIP	TOTAL
				Unit	Total	Rate	Labor	S/C	Mat'l	Equip					
	Insurance & Bond											$107,820			$107,820
	Submittals				2626						$100,430		$200		$100,630
	Overhead and Profit											$590,360			$590,360
	Mobilization				70						$1,650	$3,690	$4,600		$9,940
	Off Hours Dust Control											$20,000			$20,000
	Survey											$46,300			$46,300
	Erosion & Sed Control				60						$1,450			$1,370	$2,820
	Site Preparation				3,590						$86,700		$25,370	$202,630	$314,700
	Clay Liner				3,708						$89,150		$260	$182,170	$271,580
	Geosynthetics Purchase by FF											$649,930			$649,930
	Secondary Liner				2,775						$64,420	$87,900	$9,000	$37,460	$198,780
	Primary Liner				2,400						$57,420	$271,500	$9,190	$32,360	$370,470
	Secondary Drainage				1,400						$34,390		$146,100	$57,360	$237,850
	Primary Drainage				1,550						$38,490		$157,220	$60,310	$256,020
	Leak Detection Testing				150						$3,600	$18,600		$930	$23,130
	Project Staffing				2,783						$90,830				$90,830
	Subtotal Direct Cost	1	LOT		21,118						ZS	$1,796,100	$351,940	$574,590	$2,722,630

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 6 LINER CCPLGFY06
ESTIMATE NO.: C2 -01-05-01-G6
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Insurance & Bond														
	Performance bond 1.3%							COST							
	Insurance 1.5%							THRU							
								OH & P							
	Sub-total 2.8%							3542136				$99,180			$99,180
	Submittals														
D	Plans	16	EA	50	800	50.62					$40,500				$40,500
D	Technical submittals	100	EA	5	500	50.62					$25,310				$25,310
D	Site access & GET traing, cnstrct work f	25	EA	18	450	23.64					$10,640				$10,640
D	Site access & GET traing, PM, CM etc	7	EA	18	126	32.63					$4,110				$4,110
D	Site access & GET traing, surveyers & c	4	EA	18	72	50.00					$3,600				$3,600
mD	CERCLA/RAD II training, constrct work	10	EA	25	250	23.64					$5,870				$5,870
mD	CERCLA/RAD II traing, PM, CM etc	4	EA	25	100	32.63					$2,500				$2,500
mD	CERCLA/RAD II traing, surveyers & oth	4	EA	25	100	46.67					$2,500				$2,500
D	Health Physics				228	23.64					$5,400		$200		$5,600
	Sub-total				2626						$100,430		$200		$100,630
	Overhead and Profit														
				20%								$590,360			$590,360
D															
D															
D															
D															
D															
D															

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 6 LINER CCPLGFY06
ESTIMATE NO.: C2 -01-05-01-G6
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

	Mobilization	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	S/C Office Trailer 2 reqd	7	MO					550				$2,450			$2,450
	Support trailer 1 reqd	7	MO					350				$780			$780
	Trailer rental & portolets spread 1/3 each														
	liner, placement, cap														
D															
D						23.64									
D						23.64									
D															
D															
D															
	Portable toilets 2 ea	7	MTH					85				$380			$380
	Potable water, Allow 5jug/mth, $8/jug	7	MTH					12	40			$80	$300		$380
D													$4,300		$4,300
D	Mobilize contractor equipment	20	EA	3	70	23.64					$1,650				$1,650
	Mobilization				70						$1,650	$3,690	$4,600		$9,940

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 6 LINER CCPLGFY06
ESTIMATE NO.: C2 -01-05-01-G6
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

ITEM NO.	Site Preparation		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
D	Construction fence		1000	LF	0.04	40	23.64			1.05		$950		$1,050		$2,000
D	Haul road	5 days	440	LF												
D	#304 stone		500	TON						13.05				$6,530		$6,530
	Geotex		11000	SF						0.08				$880		$880
	Fill		1000	CY						on site						
D	3 teamsters		5	DAY	10	150	22.86					$3,430				$3,430
D	3 operators		5	DAY	10	150	27.03					$4,050				$4,050
D	2 laborers		5	DAY	10	100	22.65					$2,260				$2,260
	Truck, Volvo A30, 2 reqd	5 day -	0.23	MTH							7905				$3,650	$3,650
	Sheepsfoot roller, Cat 824	5 day -	0.23	MTH							13390				$3,090	$3,090
	Loader ,Cat 966	5 day -	0.23	MTH							6820				$1,570	$1,570
	Dozer, D6	5 day -	0.23	MTH							7040				$1,620	$1,620
	Truck, Volvo A30, 2 reqd @ 85%			HR	85						27.12				$2,310	$2,310
	Sheepsfoot roller, Cat 824 @ 85%			HR	43						41.55				$1,770	$1,770
	Loader ,Cat 966 @ 85%			HR	43						24.90				$1,060	$1,060
	Dozer, D6 @ 85%			HR	43						21.87				$930	$930
	Removal of topsoil (2000cy) & excavate liner 4 (4000cy)															
D	4 teamsters		7	DAY	10	280	22.86					$6,400				$6,400
D	3 operators		7	DAY	10	210	27.03					$5,680				$5,680
	Truck, Volvo A30, 4 reqd	7 day -	0.32	MTH							7905				$10,220	$10,220
	Dozer, D8	7 day -	0.32	MTH							13145				$4,250	$4,250
	Excavator Cat330	7 day -	0.32	MTH							11490				$3,710	$3,710
	Truck, Volvo A30, 4 reqd @ 85%			HR	238						27.12				$6,450	$6,450
	Waterwagon, 1 reqd, @ 85%			HR	60						24.10				$1,430	$1,430
	Dozer, D8 @ 85%			HR	60						39.66				$2,360	$2,360
	Excavator Cat330 @ 85%			HR	60						32.15				$1,910	$1,910
	Site Preparation													$880	$6,070	$6,950

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 6 LINER CCPLGFY06
ESTIMATE NO.: C2 -01-05-01-G6
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Site Prep continued														
	Maintain liner #4 subgrade														
D	2 laborers	2	DAY	10	40	22.65					$910				$910
D	1 operator	2	DAY	10	20	27.03					$540				$540
	Dozer, D6 2 day -	0.09	MTH							7040				$650	$650
	Smooth drum roller, Cat 563 2 day -	0.09	MTH							4335				$400	$400
	3"pump w/50' ea suctn/dischr hose 2 day -	0.09	MTH							496				$50	$50
	Dozer, D6 @ 85%		HR	17						21.87				$370	$370
	Smooth drum roller, Cat 563 @ 85%		HR	17						15.48				$260	$260
	3"pump w/50' ea suctn/dischr hose @ 50%		HR	10						0.75				$10	$10
	Gravity inlet structure														
D	1. Riser, 3' ID, 4" thk RC	15	FT	0.8	14	29.03			56	77	$410		$830	$1,350	$2,590
D	2. Cap, 5' ID, 7"-8" thk RC	2	EA	3	7	29.03			918	29	$200		$1,840	$70	$2,110
D	3. Outlet piping, 12"RCP	180	FT	0.184	39	29.03			10.5	0.79	$1,120		$1,880	$170	$3,170
D	4. Excavation	1506	BCY	0.015	26	23.64				0.82	$620			$1,440	$2,060
	5. Backfill														
D	a. Embedment fill	1.0	ICY	0.053	1	23.64			19.5	0.95	$20		$20		$40
D	a. Compacted fill	1458	ICY	0.052	88	23.64				1.00	$2,090			$1,700	$3,790
	North Entrance Road Removal	1000	CY												
D	2 Operators	1.5	DAY	10	30	27.03					$810				$810
D	3 Teamsters	1.5	DAY	10	45	22.86					$1,030				$1,030
	Excavator Cat 330 1.5 day	0.07	MTH							11490				$930	$930
	Truck, Volvo A30, 3 reqd 1.5 day	0.07	MTH							7905				$1,640	$1,640
	Dozer, Cat D6 1.5 day	0.07	MTH							7040				$570	$570
	Excavator Cat 330 at 85%		HR	13						32.15				$410	$410
	Truck, Volvo A30, 3 reqd at 85%		HR	13						27.12				$1,040	$1,040
	Dozer, Cat D6 at 85%		HR	13						21.87				$840	$840

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 6 LINER CCPLGFY06
ESTIMATE NO.: C2 -01-05-01-G6
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

ITEM NO.	Site Preparation cont'd	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Construct Sediment basin #2 &														
	Fill Sediment basin #1														
	requires 20000 cy excavation & 25000 cy fill														
D	2 laborers	25	DAY	10	500	22.65					$11,320				$11,320
D	5 teamsters	25	DAY	10	1250	22.86					$28,570				$28,570
D	1 operator	25	DAY	10	250	27.03					$6,760				$6,760
	Truck, Volvo A30, 5 reqd 25 day -	1.15	MTH.							7905				$45,610	$45,610
	Dozer Cat D6 25 day -	1.15	MTH							7040				$8,120	$8,120
	Excavator Cat330 25 day -	1.15	MTH							11490				$13,260	$13,260
	Sheeps foot roller Cat 825 25 day -	1.15	MTH							13390				$15,450	$15,450
	Excavator Cat330 @ 85%		HR	213						32.15				$6,830	$6,830
	Truck, Volvo A30, 5 reqd @ 85%		HR	213						27.12				$28,820	$28,820
	Sheepsfoot roller Cat825 @ 85%		HR	213						41.55				$8,830	$8,830
	Dozer Cat D6 at 85%		HR	213						21.87				$4,650	$4,650
	Reroute drain from new wash facility to VH#7														
D	1 operator	5	DAY	10	50	27.03					$1,350				$1,350
D	2 laborers	5	DAY	10	100	22.65					$2,260				$2,260
D	2 pipefitters	10	DAY	10	200	29.62					$5,920				$5,920
	Excavator Cat330 5 day -	0.23	MTH							11490				$2,650	$2,650
	Compactors, Wacker RS800V 5 day -	0.23	MTH							985				$450	$450
	Welding machine for 12" HDPE	10	DAY							185				$1,850	$1,850
	2" electric pump w/suction / discharge hose	0.23	MTH							408				$90	$90
	Excavator Cat330 @ 85%		HR	43						32.15				$1,370	$1,370
	Compactors, Wacker RS800V	85%	HR	43						1.80				$150	$150
	pump @ 50% & welder @ 85%	1	LOT							200				$200	$200
	12" HDPE	500	LF						10.92				$5,460		$5,460
	gravel	500	TON						12.00				$6,000		$6,000
	2 Site Preparation				3,590						$86,700		$25,370	$202,630	$314,700

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 6 LINER CCPLGFY06
ESTIMATE NO.: C2 -01-05-01-G6
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

ITEM NO.	Clay Liner	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Borrow area road maintenance														
	Included w/clay liner activity														
D	Traffic Signs @ Borrow & N Ent Road Intersctn	1	LOT	8	8	23.64			260	47	$190		$260	$50	$500
	Install & remove														
	Load Clay fr Borrow Area														
D	6 teamsters	25	DAY	10	1500	22.86					$34,290				$34,290
D	1 operator	25	DAY	10	250	27.03					$6,760				$6,760
	Truck, Volvo A30, 6 reqd 25 day	1.15	MTH							7905				$54,730	$54,730
	Waterwagon incl w/borrow area														
	Excavator Cat330 25 day	1.15	MTH							11490				$13,260	$13,260
	Truck, Volvo A30, 6 reqd @ 85%		HR	1275						27.12				$34,580	$34,580
	Excavator Cat330 @ 85%	33000 CY	HR	213						32.15				$6,830	$6,830
	Place Clay 33000 CY														
D	3 operators	25	DAY	10	750	27.03					$20,270				$20,270
D	4 laborers	25	DAY	10	1000	22.65					$22,650				$22,650
	Soil stabilizer, Cat SS250 25 day		MTH							12095					
	Dozer, D8 25 day	1.15	MTH							13145				$15,170	$15,170
	Sheepsfoot roller Cat 825 25 day	1.15	MTH							13390				$15,450	$15,450
	Smooth drum roller, Cat 563 25 day		MTH							4335					
	Waterwagon, 1 reqd, @ 85%		HR							24.10					
	Soil stabilizer Cat SS250 @ 85%		HR	213						34.00				$7,230	$7,230
	Dozer, D8 @ 85%		HR	213						39.66				$8,430	$8,430
	Sheepsfoot roller Cat 825 @85%		HR	213						41.55				$8,830	$8,830
	Smooth drum roller, Cat 563 @ 50%		HR	125						15.48				$1,940	$1,940

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 6 LINER CCPLGFY06
ESTIMATE NO.: C2 -01-05-01-G6
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

ITEM NO.	Clay Liner cont'd		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Remove excess clay															
D	2 teamsters		5	DAY	10	100	22.86					$2,290				$2,290
D	2 operator		5	DAY	10	100	27.03					$2,700				$2,700
	Dozer, D8	5 day -	0.23	MTH							13145				$3,030	$3,030
	Excavator Cat330	5 day -	0.23	MTH							11490				$2,650	$2,650
	Smooth drum roller, Cat 563	5 day -	0.23	MTH							4335				$1,000	$1,000
	Truck, Volvo A30, 2 reqd	5 day -	0.23	MTH							7905				$3,650	$3,650
	Dozer, D8 @	85%		HR	43						39.66				$1,690	$1,690
	Excavator Cat330 @	43%		HR	21						32.15				$680	$680
	Smooth drum roller, Cat 563 @	85%		HR	43						15.48				$660	$660
	Truck, Volvo A30, 2 reqd @	85%		HR	43						27.12				$2,310	$2,310
	Clay Liner					3708						$89,150		$260	$182,170	$271,580

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 6 LINER CCPLGFY06
ESTIMATE NO.: C2 -01-05-01-G6
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Off Hours Dust Control Allow $40,000 per year split between cell cap & cell liner	0.5	LOT					40,000				$20,000			$20,000
D	Survey 6.7 mth							68000				$46,300			$46,300
	Subtotal Direct cost	1	LOT									$66,300			$66,300

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 6 LINER CCPLGFY06
ESTIMATE NO.: C2 -01-05-01-G6
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Erosion & Sed Control														
	Surface water mgmt & erosion control (SWM&EC)														
	Install SWM&EC														
D	1 operator	2	DAY	10	20	27.03					$540				$540
D	2 laborer	2	DAY	10	40	22.65					$910				$910
	Dozer, D6 5 day -	0.09	MTH							7040				$650	$650
	Smooth drum roller, Cat 563 5 day -	0.09	MTH							4335				$400	$400
	Dozer, D6 @85%		HR	9						21.87				$190	$190
	Smooth drum roller, Cat 563 @85%		HR	9						15.48				$130	$130
	Erosion & Sed Control	1	LOT		60						$1,450			$1,370	$2,820

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 6 LINER CCPLGFY06
ESTIMATE NO.: C2 -01-05-01-G6
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Geosynthetics Purchase by FF														
	Geomembrane, 80 mil textured (GML)	770000	SF					0.30				$231,000			$231,000
	Geomembrane, 80 mil smooth (GML)	4000	SF					0.60				$2,400			$2,400
	Geomembrane, 30 mil smooth (GML)	28000	SF					0.15				$4,200			$4,200
	GCL	770000	SF					0.40				$308,000			$308,000
	Geotextile cushion 10 oz	790000	SF					0.08				$63,200			$63,200
	Geotextile cushion 16 oz	74500	SF					0.12				$8,940			$8,940
	Geotextile filter 7 oz	460000	SF					0.06				$27,600			$27,600
	Welding rod	120	BOX					24.00				$2,880			$2,880
	Bentonite 1 bag per 2250sf GCL	342	BAG					5.00				$1,710			$1,710
	Sub-total											$649,930			$649,930

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 6 LINER CCPLGFY06
ESTIMATE NO.: C2 -01-05-01-G6
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

ITEM NO.	Secondary Liner	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Penetration Boxes														
	3 secondary	3	LOT						1619				$4,860		$4,860
D	2 pipefitters	12	DAY	10	240	29.62					$7,110				$7,110
D	2 laborers	12	DAY	10	240	22.65					$5,440				$5,440
D	1 operator	12	DAY	10	120	27.03					$3,240				$3,240
	Compactor, Wacker RS800V 2 req 12 day	0.55	MTH							985				$1,090	$1,090
	Excavator Cat330 13 day	0.55	MTH							11490				$6,360	$6,360
	Compactor, plate 85%		HR	102						1.80				$370	$370
	Excavator Cat330 @ 85%		HR	102						32.15				$3,280	$3,280
	Pipe material for penetration boxes														
	6" SDR-11 HDPE: need 180lf, purch in 40ft lengths	200							2.87				$570		$570
	10" SDR-11 HDPE: need 180lf, purch in 40ft lengths	200							7.69				$1,540		$1,540
	6" SDR-11 HDPE perf: need 620lf, purch in 40ft lengths	640							3.17				$2,030		$2,030
	Receive & store geosynthetics, 15 days over 2 mths (cost distributed 50% secondary & 50% primary)														
	Cat TH83 forklift	2	MTH							3765				$3,770	$3,770
D	1 operator	15	DAYS	10	75	27.03					$1,010				$1,010
D	2 laborers	15	DAYS	10	150	22.65					$1,700				$1,700
	Cat TH83 forklift oper cost @ 85%	63.75	HR							12.45				$400	$400
	Deploy GCL, GML, & geotextile	15	DAY												
D	2.5 operator	15	DAYS	10	375	27.03					$10,140				$10,140
D	10 laborers	15	DAYS	10	1500	22.65					$33,970				$33,970
	Cat TH83 forklift	0.7	MTH							3765				$2,610	$2,610
	Positrac (priced as Cat 246)	0.7	MTH							2165				$1,500	$1,500
	Cat 563 smooth drum roller	0.7	MTH							4335				$3,000	$3,000
	Cat TH83 forklift @ 85%		HR	319						12.45				$3,970	$3,970
	Positrac (priced as Cat 246) @ 85%		HR	319						7.25				$2,310	$2,310
	Cat 563 smooth drum roller @ 85%		HR	319						15.48				$4,930	$4,930

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 6 LINER CCPLGFY06
ESTIMATE NO.: C2 -01-05-01-G6
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

ITEM NO.	Secondary Liner cont'd	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Install secondary liner by S/C														
D	GCL	325000	SF					0.07				$22,800			$22,800
D	GML	325000	SF					0.15				$48,800			$48,800
D	Geotextile cushion	325000	SF					0.05				$16,300			$16,300
	Trenching & liner terminations														
	shared 50% by secondary & primary														
D	1 operator	5	DAYS	10	25	27.03					$680				$680
D	2 laborers	5	DAYS	10	50	22.65					$1,130				$1,130
	Excavator Cat330 5 day -	0.23	MTH							11490				$2,650	$2,650
	Compactor, Wacker RS800V 2 req 5 day -	0.23	MTH							2165				$500	$500
	Excavator Cat 330 @ 85%		HR	21						32.15				$680	$680
	Compactor @ 85%		HR	21						1.80				$40	$40
	Secondary Liner				2,775						$64,420	$87,900	$9,000	$37,460	$198,780

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 6 LINER CCPLGFY06
ESTIMATE NO.: C2 -01-05-01-G6
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

ITEM NO.	Primary Liner		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Penetration Boxes															
	2 primary		2	LOT						1619				$3,240		$3,240
D	2 pipefitters		6	DAY	10	120	29.62					$3,550				$3,550
D	2 laborers		6	DAY	10	120	22.65					$2,720				$2,720
D	1 operator		6	DAY	10	60	27.03					$1,620				$1,620
	Compactor, Wacker RS800V 2 req	6 day -	0.28	MTH							985				$550	$550
	Excavator Cat330	6 day -	0.28	MTH							11490				$3,180	$3,180
	Compactor, plate	85%		HR	51						1.80				$180	$180
	Excavator Cat330 @	85%		HR	51						32.15				$1,640	$1,640
	Deploy GCL, GML, & geotextile		15	DAY												
D	2.5 operator		15	DAYS	10	375	27.03					$10,140				$10,140
D	10 laborers		15	DAYS	10	1500	22.65					$33,970				$33,970
	Cat TH83 forklift		0.7	MTH							3765				$2,610	$2,610
	Positrac (priced as Cat 246)		0.7	MTH							2165				$1,500	$1,500
	Cat 563 smooth drum roller		0.7	MTH							4335				$3,000	$3,000
	Cat TH83 forklift @	85%		HR	319						12.45				$3,970	$3,970
	Positrac (priced as Cat 246) @	85%		HR	319						7.25				$2,310	$2,310
	Cat 563 smooth drum roller @	85%		HR	319						15.48				$4,930	$4,930
	Install secondary liner by S/C															
D	GCL		325000	SF					0.07				$168,800			$168,800
D	GML		325000	SF					0.15				$48,800			$48,800
D	Geotextile cushion		325000	SF					0.05				$16,300			$16,300
	Trenching & liner terminations															
	shared 50% by secondary & primary												$16,300			$16,300
D	1 operator		5	DAYS	10	25	27.03					$680				$680
D	2 laborers		5	DAYS	10	50	22.65					$1,130				$1,130
	Excavator Cat330	5 day -	0.23	MTH							11490				$2,650	$2,650
	Compactor, Wacker RS800V 2 req	5 day -	0.23	MTH							2165				$500	$500
	Excavator Cat 330 forklift @	85%		HR	21						32.15				$680	$680
	Compactor @	85%		HR	21						1.80				$40	$40

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 6 LINER CCPLGFY06
ESTIMATE NO.: C2 -01-05-01-G6
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

ITEM NO.	Primary cont'd		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Place geotextile 375000 + 50000 =		425000	SF												
D	2 laborers		5	DAY	10	100	22.65					$2,260				$2,260
D	1 operator		5	DAY	10	50	27.03					$1,350				$1,350
	Compactor, Wacker RS800V 2 req	5 day =	0.23	MTH							985				$450	$450
	Excavator Cat330	5 day =	0.23	MTH							11490				$2,650	$2,650
	Compactor, plate	85%		HR	43						1.80				$150	$150
	Excavator Cat330 @	85%		HR	43						32.15				$1,370	$1,370
D	Geotextile		425000	SF					0.05				$21,300			$21,300
	Pipe material for penetration boxes															
	6" SDR-11 HDPE: need 350lf, purch in 40ft lengths		360							2.87				$1,030		$1,030
	10" SDR-11 HDPE: need 350lf, purch in 40ft lengths		360							7.69				$2,770		$2,770
	6" SDR-11 HDPE perf: need 650lf, purch in 40ft lengths		680							3.17				$2,150		$2,150
	Primary Liner		1	LOT		2,400	$23.93					$57,420	$271,500	$9,190	$32,360	$370,470

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 6 LINER CCPLGFY06
ESTIMATE NO.: C2 -01-05-01-G6
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

ITEM NO.	Secondary Drainage		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Secondary Drainage															
D	Receive & stockpile stone, # 78		11,500	TON						12				$138,000		$138,000
D	1 operator		20	DAYS	10	200	24.60					$4,920				$4,920
D	1 laborer		20	DAYS	10	200	23.75					$4,750				$4,750
	Dozer Cat D8		0.92	MTH							13145				$12,130	$12,130
	Dozer Cat D8 @	85%		HR	170						39.66				$6,740	$6,740
	#57 stone		675	TON						12				$8,100		$8,100
	Place stone															
D	3 operator		10	DAYS	10	300	27.03					$8,110				$8,110
D	3 laborers		10	DAYS	10	300	22.65					$6,790				$6,790
D	3 teamsters		10	DAYS	10	300	22.86					$6,860				$6,860
D	2 pipefitters		5	DAYS	10	100	29.62					$2,960				$2,960
	Dozer Cat D6	2 reqd	0.46	MTH							7040				$6,500	$6,500
	Loader Cat 966		0.46	MTH							6820				$3,150	$3,150
	Cat 563 smooth drum roller		0.46	MTH							4335				$2,000	$2,000
	Dozer Cat D6 @	85%		HR	85						21.87				$3,720	$3,720
	Loader Cat 966 @	85%		HR	85						24.90				$2,120	$2,120
	Cat 563 smooth drum roller @	85%		HR	85						15.48				$1,320	$1,320
	Truck, Volvo A30, 3 reqd		0.46	MTH							7905				$12,760	$12,760
	Truck, Volvo A30 @ 85%	85%		HR	85						27.12				$6,920	$6,920
	Secondary Drainage		1	LOTS		11,400	$24.56					$34,390		$146,100	$57,360	$237,850

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 6 LINER CCPLGFY06
ESTIMATE NO.: C2 -01-05-01-G6
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

ITEM NO.	Primary Drainage		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Primary Drainage															
D	Receive & stockpile stone, # 78		11,500	TON						12				$138,000		$138,000
D	1 operator		20	DAYS	10	200	24.60					$4,920				$4,920
D	1 laborer		20	DAYS	10	200	23.75					$4,750				$4,750
	Dozer Cat D8		0.92	MTH							13145				$12,130	$12,130
	Dozer Cat D8 @	85%		HR	170						39.66				$6,740	$6,740
	#57 stone		1602	TON						12				$19,220		$19,220
	Place stone															
D	3 operator		10	DAYS	10	300	27.03					$8,110				$8,110
D	3 laborers		10	DAYS	10	300	22.65					$6,790				$6,790
D	3 teamsters		10	DAYS	10	300	22.86					$6,860				$6,860
D	2 pipefitters		10	DAYS	10	200	29.62					$5,920				$5,920
	Dozer Cat D6	2 reqd	0.46	MTH							7040				$6,500	$6,500
	Loader Cat 966		0.46	MTH							6820				$3,150	$3,150
	Cat 563 smooth drum roller		0.46	MTH							4335				$2,000	$2,000
	Dozer Cat D6 @	85%		HR	85						21.87				$3,720	$3,720
	Loader Cat 966 @	85%		HR	85						24.90				$2,120	$2,120
	Cat 563 smooth drum roller @	85%		HR	85						15.48				$1,320	$1,320
	Truck, Volvo A30, 3 reqd		0.46	MTH							7905				$12,760	$12,760
	Truck, Volvo A30 @ 85%	85%		HR	85						27.12				$6,920	$6,920
	Dust control															
D	1/2 teamster		10	DAYS	10	50	22.86					$1,140				$1,140
	Waterwagon Cat 613		0.46	MTH							6400				$2,950	$2,950
	Waterwagon Cat 613 @	50%		HR	50						24.10					
	Primary Drainage					1,650	$24.83					$38,490		$157,220	$60,310	$256,020

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 6 LINER CCPLGFY06
ESTIMATE NO.: C2 -01-05-01-G6
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

ITEM NO.	Leak Detection Testing	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Leak Detection Testing	1	LOT					18600				$18,600			$18,600
	Water Management														
D	1 operator	5	DAYS	10	50	24.60					$1,230				$1,230
D	2 laborers	5	DAYS	20	100	23.75					$2,370				$2,370
	Positrac (priced as Cat 246) 5 days	0.23	MTH							2165				$500	$500
	2"pump w/50' ea suctn/dischr hose 5 days	0.23	MTH							441				$100	$100
	Positrac (priced as Cat 246) @ 85%		HR	43						7.25				$310	$310
	Pump @ 50% 50%		HR	25						0.75				$20	$20
	Leak Detection Testing		LOT		150	$24.00					$3,600	$18,600		$930	$23,130

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 6 LINER CCPLGFY06
ESTIMATE NO.: C2 -01-05-01-G6
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

ITEM NO.	Dust Control / Moisture Conditioning	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
D	Teamster 6.7 mth	109	DAYS	10	1085	22.86					$24,800				$24,800
	Water wagon Cat 613	5.0	MTH							6400				$32,050	$32,050
	Water wagon Cat 613 active 85%		HR	922						24.10				$22,230	$22,230
	Note: 75% for liner & 25% for borrow area for 6.7 months														
	Dust Control / Moisture Conditioning		LOT		1,085	$22.86					$24,800			$54,280	$79,080

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 6 LINER CCPLGFY06
ESTIMATE NO.: C2 -01-05-01-G6
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

ITEM NO.			QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Project Staffing		Shared percent													
D	Project Manager	6.7 mth	20%	hr	1	147	54.42					$7,990				$7,990
D	General Superintendent	6.7 mth	20%	hr	1	147	37.85					$5,560				$5,560
D	Superintendent	6.7 mth	25%	hr	2	655	32.99					$21,620				$21,620
D	Project Engineer	6.7 mth	40%	hr	1	524	33.19					$17,400				$17,400
D	Quality Engineer	6.7 mth	25%	hr	2	655	28.05					$18,380				$18,380
D	Safety Engineer	6.7 mth	25%	hr	2	655	30.34					$19,880				$19,880
D	Office Administration	in overhead					19.31									
D	Contract Administration/ Schedul	in overhead					25.58									
D	Clerical	in overhead					14.58									
	TOTAL					2,783	32.63					$90,830				$90,830

APPENDIX "C"

HEALTH PHYSICS

PROJECT: OSDF BASELINE CELL 6 LINER CCPLGFY06
ESTIMATE NO.: C2 -01-05-01-G6
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

PPE"s - PERSONAL PROTECTIVE EQUIPMENT

DESCRIPTION	UNIT	UNIT COST	* NO. OF CHANGE OUTS PER WORKER PER DAY				
			Man Days (TOTAL HOURS worked in PPE's Div. by WORK HOURS / DAY)				
PPE LEVEL C / C+ / B : F/HF MASK w/RESP.&CART.			*	MAN DAYS	MAT'L.$'s	PPE LEVEL	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	(DOUBLE PPE)
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	C / C+	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	C / C+	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	C / C+	
APR CARTRIDGES - DISPOSABLE	PR	$6.98	3	0	$0	C / C+	
SUB-TOTAL		$17.42	3		$0		
				$/MD =	$0.00		
PPE LEVEL mC : FULL DRESS w/ FACE SHIELD				MAN DAYS	MAT'L.$'s	PPE LEVEL	
LT.WT. DISPOSABLE COVERALLS W/HOOD & BOOTIES	PR	$4.46	3	0	$0	mC	
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	mC	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	mC	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	mC	
SUB-TOTAL		$5.98	3		$0		
				$/MD =	$0.00		
SUBCONTRACTOR REQUIRED PURCHASES			QTY. PER WKR.	NO. OF WORKERS	MAT'L.$'s	PPE LEVEL	
RUBBER BOOT COVERS-(1)PR.PER WORKER	PR	$12.70	2	8	$203	D/C/B	
APR w/HALF FACE MASK - (1) PER WORKER	EA	$22.30	6	0	$0	C	
APR w/FULL FACE MASK - (1) PER WORKER	EA	$174.00	6	0	$0	C	
SCBA	EA	$1,894.00	2	0	$0	B	
COOL VESTS	EA	$137.50	6	0	$0	C/B	
THERMO STRIPS	EA	$50.00	6	0	$0	C/B	
SUB-TOTAL					$200		

	MAT'L.$'s
TOTAL PPE's =	$200

(FORWARD TO PAGE 2 OF 2)

OTHER PPE's SUCH AS HARD HAT, SAFETY GLASSES/GOGGLES, STEEL TOED SAFETY SHOES, HEARING PROTECTION, ARE CONSIDERED THE SUBCONTRACTORS RESPONSIBILITY AND ARE COVERED IN HIS OVERHEAD EXPENSE.
COSTS OF FD FERNALD SUPPLIED PPE's, SUCH AS COTTON COVERALLS, EXCHANGE OF RUBBER BOOT COVERS AND RESPIRATORS FOR CHANGEOUTS AND CLEANING OF SAME IS INCURRED BY FD FERNALD AND COSTS ARE NOT INCLUDED AS PART OF PROJECT COSTS AT THIS TIME.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: OSDF BASELINE CELL 6 LINER CCPLGFY06
ESTIMATE NO.: C2 -01-05-01-G6
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

--MEDICAL MONITORING --

MEDICAL - PHYSICAL and IN-VIVO MONITORING - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION PHYSICAL (3hrs), IN-VIVO (1hr)	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $	
BASELINE PHYSICALS	1	4	0	0	$26.93	$0	
ANNUAL PHYSICALS	0	4	0	0	$26.93	$0	
EXIT (TERMINATION) PHYSICALS (IN-VIVO)	1	1	0	0	$26.93	$0	
SUB-TOTAL						$0	

RADIATION IN-VITRO SURVEILLANCE - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $	
BI-MONTHLY BIOASSAY	6	1	0	0	$26.93	$0	
SUB-TOTAL						$0	

RANDOM DRUG TESTING

	TESTS	HRS	TOTAL HOURS	AVG. RATE	LABOR $'s	
	14	2	28	$26.93	$800	
NO. OF WKRS. TESTED	TESTING DAYS PER YR.	AVG. NO. OF TESTS PER DAY	CHANCE/ DAY FOR TEST	NO. OF WKRS. FOR THIS ESTIMATE	CHANCES /DAY FOR TEST FOR PROJECT	CONSTR WORKING DAYS
2340	226	10	0.004274	25	0.1068	127

			LABOR $'s THRU SAFETY	LABOR $'s	
WORK DELAYS CAUSED BY MONITORING	0.5%		$468,100	$2,300	
				LABOR $'s	
WORK DELAYS CAUSED BY RAD CHECKING	0.5%		$468,100	$2,300	

	TOTAL LABOR	TOTAL MAT'L.	GRAND TOTAL
TOTAL HEALTH PHYSICS	$5,400	$200	$5,600

(FORWARD TO ESTIMATE SUMMARY SHEET)

ACTIVITY DURATIONS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 6 LINER CCPLGFY06
ESTIMATE NO. C2 -01-05-01-G6
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

ACTIVITY	EST. DATE	START - DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION	Days per Schedule	
						Each Year		
Monitoring Well	04-May-01	18-Aug-05	08-Sep-05	30-Sep-05	1.4	MONTHS	32	14.4%
Liner		03-Apr-06	13-Jul-06	23-Oct-06	6.7	MONTHS	142	68.1%
Video & Demob		07-Nov-06	03-Dec-06	29-Dec-06	1.7	MONTHS	36	17.4%
TOTAL					9.8	MONTHS		
					10.0		210	

	DATE of EST. to MID-POINT ACTIVITY DURATION	
a.	52.3	MONTHS
b.	1285	MONTHS

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION
OPERATIONS					0	MONTHS

DATE of EST. to MID-POINT ACTIVITY DURATION	
0	MONTHS

ACTIVITY DURATION IS USED IN DETERMINING NUMBER of WORKERS for CERCLA/SAT TRAINING HOURS and HEALTH PHYSICS COSTS.

APPENDIX "E"

TRAINING

PROJECT:	OSDF BASELINE CELL 6 LINER CCPLGFY06	DATE:	17-May-01
ESTIMATE #:	C2 -01-05-01-G6	ESTIMATOR:	RIS
CLIENT:	DOE	LOCATION:	FERNALD
WBS #:	1.1.C.D	TASK #:	CCPLG

FLUOR FERNALD

Site Access Training Requirements (RM-0055 Rev. 1 Effective: 09/30/99)

Training Requirements	Non-Hazardous	Occasional Site Worker	General Site Worker		
Access Area	Administrative Support Area	Controlled Area	Contamination Compound	Frequency	
	8 Hour	24 Hour Hazwoper	40 Hour Hazwoper		
General Employee Training	X	X	X	Annually	
Site Worker Training		X	X	One Time	
Rad. Worker I		X		Biennially	
Rad. Worker II			X	Biennially	
Respirator Training *			X	Annually	
Respirator Fit Testing *			X	Annually	
Supervised Field Experience	0 HR	8 HR	24 HR	One time →	*On the Job*
Site Worker Refresher		X	X	Annually ⇨	4 Hour
Rad. Worker I Retraining		X		Every 2 years ⇨	4 Hour
Rad. Worker II Retraining			X	Every 2 years ⇨	8 Hour

Additional Training	HRS	No. of Workers	Total Hours
Job Specific Training =	2	7	14
Fire Watch Training =	1	2	2
Lead Worker Training =	4	7	28
Lock out / Tag out Training =	8	3	24
Rigging Training =	24	4	96
Scaffold Training =	16	4	64

DURATION	10 Month(s)		
Average Rate $	26.93		
Number of General Site Worker(s)	16	General Site Worker Training Cost	$16,730
Number of Occasional Site Worker(s)	1	Occasional Site Training Cost	$646
Number of Non-Hazardous Worker(s)	1	Non-Hazardous Training Cost	$215
		Additional Training Cost	$6,140
Total Training Hours	881	Total Training Cost =	$23,731

* = All employees classified as General Site Worker must initially take respirator training. The annual requirement for the repeat of training and the fit test frequency requirements are only needed by those employees that are required to wear a respirator.

ESTIMATE SUMMARY SHEET

PROJECT: OSDF BASELINE CELL 6 LINER CCPLG FY07
ESTIMATE #: C2-01-05-01-G7
CLIENT: DOE
WBS #: 1.1.C.D

FLUOR FERNALD

DATE: 12-Sep-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	EQUIP. $	TOTAL $
Insurance & Bond for this FY is included in FY 04							
Insurance/Bond							
Submittals	133		$6,530				$6,530
Overhead and Profit				$51,410			$51,410
Mobilization				$3,390	$100		$3,490
Video				$10,000			$10,000
Misc Activities	1,380		$32,890	$2,500	$29,250	$65,860	$130,500
Dust Control / Moisture Conditioning	278		$6,350			$13,900	$20,250
Demobilization	187		$4,420				$4,420
Survey				$11,870			$11,870
Project Staffing	713		$23,270				$23,270
DIRECT FIELD COSTS TOTAL	**2,691**	**$27.29**	**$73,460**	**$79,170**	**$29,350**	**$79,760**	**$261,740**
SUPERVISION - CONTRACTOR							
SMALL TOOLS & CONSUMABLES	-	-	-		$1,000		$1,000
MISC. EQUIP. RENTAL	-	-	-			$3,800	$3,800
TEMPORARY FACILITIES incl w/Mobilization							
TEMPORARY UTILITY HOOK-UP incl w/Mobilzation							
JOB CLEAN-UP incl w/Job Close-out							
PER DIEM / SUBSISTANCE	-	-	-				
HEALTH PHYSICS S/C incl w/Submittals							
CERCLA - TRAINING incl w/Submittals							
GET/SITE ACCESS & JOB SPECIFIC TRAINING w/su							
PAYROLL BURDENS & BENEFITS	-	-	$41,900				$41,900
OVERHEAD & PROFIT	-	-	-				
BOND	-	-	-				
SALES TAX	-	-	-		$1,800	$5,000	$6,800
INDIRECT FIELD COSTS TOTAL			**$41,900**		**$2,800**	**$8,800**	**$53,500**
DIRECT & INDIRECT FIELD COSTS TOTAL	**2,691**	**$42.86**	**$115,360**	**$79,170**	**$32,150**	**$88,560**	**$315,240**
TARGET ESTIMATE			**(FY 01 DOLLARS)**				**$315,200**

ESTIMATE PERFORMED BY ESTIMATING SERVICES

ESTIMATE SUMMARY SHEET

PROJECT: OSDF BASELINE CELL 6 LINER CCPLG FY(

DATE: 12-Sep-01

ESTIMATE NO. C2-01-05-01-G7

FACTORS

ESTIMATOR: RIS

CLIENT: DOE

LOCATION: FERNALD

WBS NO.: 1.1.C.D

TASK NO.: CCPLG

FIXED PRICE $	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
DFC DOLLARS	$73,460	$79,170	$29,350	$79,760		$261,740
IFC COST FACTOR	1.5704	–	1.0341	1.0476	–	
BOND + OVERHEAD & PROFIT COST FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	
SALES TAX	-	-	1.0600	1.0600	1.0600	
DIRECT FIELD COST FACTOR =	**1.5704**	**1.0000**	**1.0961**	**1.1105**	**1.0600**	
BASE ESTIMATE $'S	$115,360	$79,170	$32,171	$88,574		$315,275
BASE FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	
TARGET ESTIMATE FACTOR	**1.5704**	**1.0000**	**1.0961**	**1.1105**	**1.0600**	
FPS TARGET ESTIMATE (FY00 $)	$115,360	$79,170	$32,171	$88,574		$315,275

NOTE:

IF THERE ARE NO DFC EQUIP. $, ENTER THE IFC EQUIP. $'S INTO THE DIRECT FIELD COST TOTAL AND DELETE IFC FACTOR IN G65.

ESTIMATE SUMMARY SHEET

PROJECT: OSDF BASELINE CELL 6 LINER CCPLG FY(
DATE: 12-Sep-01
ESTIMATE NO. C2-01-05-01-G7
ESTIMATOR: RIS
CLIENT: DOE
LOCATION: FERNALD
WBS NO.: 1.1.C.D
TASK NO.: CCPLG

DIRECT FIELD COST W/FACTORS

PAY ITEM NO.	DESCRIPTION	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
		(ASSIGN OR PRORATE PPE MAT'L.$'S)-->>					
	Insurance & Bond for this FY is includ						
	Insurance/Bond						
	Submittals	6530					
		$10,250					$10,250
	Overhead and Profit		51410				
			$51,410				$51,410
	Mobilization		3390	100			
			$3,390	$110			$3,500
	Video		10000				
			$10,000				$10,000
	Misc Activities	32890	2500	29250	65860		
		$51,650	$2,500	$32,060	$73,140		$159,350
	Dust Control / Moisture Conditioning	6350			13900		
		$9,970			$15,440		$25,410
	Demobilization	4420					
		$6,940					$6,940
	Survey		11870				
			$11,870				$11,870
	Project Staffing	23270					
		$36,540					$36,540
TOTAL DIRECT FIELD COSTS W/FACTORS		(FY01 DOLLARS)					$315,270

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 6 LINER CCPLG FY07
ESTIMATE NO.: C2-01-05-01-G7
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

ITEM NO.	SUMMARY	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST / UNIT Labor	COST / UNIT S/C	COST / UNIT Mat'l	COST / UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Insurance & Bond $8,640														
	Submittals				133						$6,530				$6,530
	Overhead and Profit											$51,410			$51,410
	Mobilization											$3,390	$100		$3,490
	Video											$10,000			$10,000
	Misc Activities				1380						$32,890	$2,500	$29,250	$65,860	$130,500
	Dust Control / Moisture Conditioning				278						$6,350			$13,900	$20,250
	Demobilization				187						$4,420				$4,420
	Survey											$11,870			$11,870
	Project Staffing				713						$23,270				$23,270
	Subtotal Direct Cost	1	LOT		2691	$27.29					$73,460	$79,170	$29,350	$79,760	$261,740

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 6 LINER CCPLG FY07
ESTIMATE NO.: C2-01-05-01-G7
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Insurance & Bond							COST							
	Performance bond 1.3%							THRU							
	Insurance 1.5%							OH & P							
	Sub-total 2.8%							308436				$8,640			$8,640
	Submittals														
D	Close-out documents	25		5	125	50.62					$6,330				$6,330
D	Health Physics				8	23.64					$200				$200
	Sub-total				133						$6,530				$6,530
	Overhead and Profit														
				20%								$51,410			$51,410

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 6 LINER CCPLG FY07
ESTIMATE NO.: C2-01-05-01-G7
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

	Mobilization	QTY	UNIT	MAN-HOURS			COST/UNIT				LABOR	S/C	MAT'L	EQUIP	TOTAL
				Unit	Total	Rate	Labor	S/C	Mat'l	Equip					
	S/C Office Trailer 2 reqd	1.7	MO					550				$1,880			$1,880
	Heat stress / support trailers 2 reqd	1.7	MO					350				$1,200			$1,200
	Portable toilets 2 ea	1.7	MTH					85				$290			$290
	Potable water, Allow 5jug/mth, $8/jug	1.7	MTH					12	40			$20	$100		$120
	Mobilization											$3,390	$100		$3,490

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 6 LINER CCPLG FY07
ESTIMATE NO.: C2-01-05-01-G7
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

ITEM NO.	Video	QTY	UNIT	MAN-HOURS			COST/UNIT				LABOR	S/C	MAT'L	EQUIP	TOTAL
				Unit	Total	Rate	Labor	S/C	Mat'l	Equip					
D	Video	1	LOT					10000				$10,000			$10,000
	Video											$10,000			$10,000

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 6 LINER CCPLG FY07
ESTIMATE NO.: C2-01-05-01-G7
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

ITEM NO.	Misc Activities		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Wedges															
	Load; haul, place, compact clay															
D	2.5 operator		10	DAYS	10	250	27.03					$6,760				$6,760
D	2 laborers		10	DAYS	10	200	22.65					$4,530				$4,530
D	5 teamsters		10	DAYS	10	500	22.86					$11,430				$11,430
	Dozer, D6	10 day -	0.46	MTH							7040				$3,250	$3,250
	Excavator Cat330	10 day -	0.46	MTH							11490				$5,300	$5,300
	Sheepsfoot roller, Cat 825	10 day -	0.46	MTH							13390				$6,180	$6,180
	Truck, Volvo A30, 4 reqd	10 day -	0.46	MTH							7905				$14,590	$14,590
	Waterwagon, Cat 613	10 day -	0.46	MTH							6400				$2,950	$2,950
	Dozer, D6 @	85%		HR	85						21.87				$1,860	$1,860
	Excavator Cat330 @	85%		HR	85						32.15				$2,730	$2,730
	Sheepsfoot roller, Cat 825 @	85%		HR	85						41.55				$3,530	$3,530
	Truck, Volvo A30, 4 reqd @	85%		HR	85						27.12				$9,220	$9,220
	Waterwagon, Cat 613 @	85%		HR	85						24.10				$2,050	$2,050
	Place sacrificial geomembrane															
D	2 laborer 23000 SF		2	DAYS	10	40	22.65					$910				$910
	Access Ramp															
D	2 operator		3	DAYS	10	60	27.03					$1,620				$1,620
D	1 laborers		3	DAYS	10	30	22.65					$680				$680
D	3 teamsters		3	DAYS	10	90	22.86					$2,060				$2,060
D																
	Dozer, D6	3 day -	0.14	MTH							7040				$970	$970
	Loader Cat 966	3 day -	0.14	MTH							6820				$1,100	$1,100
	Truck, Volvo A30, 3 reqd	3 day -	0.14	MTH							7905				$3,280	$3,280
	Dozer, D6 @	85%		HR	26						21.87				$560	$560
	Loader, Cat 966 @	85%		HR	26						24.90				$630	$630
	Truck, Volvo A30, 3 reqd @	85%		HR	26						27.12				$2,070	$2,070
	Fill for ramp from on-site source, no cost		1100	CY												

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 6 LINER CCPLG FY07
ESTIMATE NO.: C2-01-05-01-G7
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

ITEM NO.	Misc Activities cont'd		QTY	UNIT	Unit	Total	Rate	COST/UNIT Labor	S/C	Mat'l	Equip			O&M	EQUIP	TOTAL
	Catchment Area															
	Granular layer #57 stone		1500	CY						19.5				$29,250		$29,250
	Geotextile by S/C		50000	SF					0.05				$2,500			$2,500
D	operator		3	DAYS	10	30	27.03					$810				$810
D	4 laborers		3	DAYS	10	120	22.65					$2,720				$2,720
D	2 teamsters		3	DAYS	10	60	22.86					$1,370				$1,370
	Dozer, D6 LGP	3 day -	0.14	MTH							8245				$1,140	$1,140
	Truck, Volvo A30, 2 reqd	3 day -	0.14	MTH							7905				$2,190	$2,190
	Dozer, D6 LGP @	85%		HR	26						24.76				$630	$630
	Truck, Volvo A30, 2 reqd @	85%		HR	30						27.12				$1,630	$1,630
	Misc Activities					1,380	$23.83					$32,890	$2,500	$29,250	$65,860	$130,500

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 6 LINER CCPLG FY07
ESTIMATE NO.: C2-01-05-01-G7
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

ITEM NO.	Dust Control / Moisture Conditioning	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
D	Teamste 1.7 mth	28	DAYS	10	278	22.86					$6,350				$6,350
	Water wagon Cat 613	1.3	MTH							6400				$8,210	$8,210
	Water wagon Cat 613 active 85%		HR	236						24.10				$5,690	$5,690
	Note: 75% for liner & 25% for borrow area for 1.8 months														
	Dust Control / Moisture Conditioning	1	LOT		278	$22.85					$6,350			$13,900	$20,250

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 6 LINER CCPLG FY07
ESTIMATE NO.: C2-01-05-01-G7
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

ITEM NO.	Demobilization	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
D	Demob contractor equipment	25	EA	3	87	23.64					$2,060				$2,060
D	Punchlist - Allowance	1	LOT	100	100	23.64					$2,360				$2,360
	Demobilization	1	LOT		187	$23.64					$4,420				$4,420

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 6 LINER CCPLG FY07
ESTIMATE NO.: C2-01-05-01-G7
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

ITEM NO.	Survey	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
D	Survey 1.7 mth							68000				$11,870			$11,870
	Survey											$11,870			$11,870

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 6 LINER CCPLG FY07
ESTIMATE NO.: C2-01-05-01-G7
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

ITEM NO.			QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Project Staffing															
			percent													
D	Project Manager	1.8 mth	20%	hr	1	38	54.42					$2,050				$2,050
D	General Superintendent	1.8 mth	20%	hr	1	38	37.85					$1,420				$1,420
D	Superintendent	1.8 mth	25%	hr	2	168	32.99					$5,540				$5,540
D	Project Engineer	1.8 mth	40%	hr	1	134	33.19					$4,460				$4,460
D	Quality Engineer	1.8 mth	25%	hr	2	168	28.05					$4,710				$4,710
D	Safety Engineer	1.8 mth	25%	hr	2	168	30.34					$5,090				$5,090
D	Office Administration	in overhead					19.31									
D	Contract Administration/ Schedu	in overhead					25.58									
D	Clerical	in overhead					14.58									
	TOTAL					713	32.64					$23,270				$23,270

APPENDIX "C"

HEALTH PHYSICS

PROJECT: OSDF BASELINE CELL 6 LINER CCPLG FY07
ESTIMATE NO.: C2-01-05-01-G7
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

PPE"s - PERSONAL PROTECTIVE EQUIPMENT

DESCRIPTION	UNIT	UNIT COST	* NO. OF CHANGE OUTS PER WORKER PER DAY	MAN DAYS	MAT'L.$'s	PPE LEVEL	
			Man Days (TOTAL HOURS worked in PPE's Div. by WORK HOURS / DAY)				
PPE LEVEL C / C+ / B : F/HF MASK w/RESP.&CART.			*	MAN DAYS	MAT'L.$'s	PPE LEVEL	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	(DOUBLE PPE)
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	C / C+	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	C / C+	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	C / C+	
APR CARTRIDGES - DISPOSABLE	PR	$6.98	3	0	$0	C / C+	
SUB-TOTAL		$17.42	3		$0		
				$/MD =	$0.00		
PPE LEVEL mC : FULL DRESS w/ FACE SHIELD				MAN DAYS	MAT'L.$'s	PPE LEVEL	
LT.WT. DISPOSABLE COVERALLS W/HOOD & BOOTIES	PR	$4.46	3	0	$0	mC	
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	mC	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	mC	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	mC	
SUB-TOTAL		$5.98	3		$0		
				$/MD =	$0.00		
SUBCONTRACTOR REQUIRED PURCHASES			QTY. PER WKR.	NO. OF WORKERS	MAT'L.$'s	PPE LEVEL	
RUBBER BOOT COVERS-(1)PR.PER WORKER	PR	$12.70	2	0	$0	D/C/B	
APR w/HALF FACE MASK - (1) PER WORKER	EA	$22.30	6	0	$0	C	
APR w/FULL FACE MASK - (1) PER WORKER	EA	$174.00	6	0	$0	C	
SCBA	EA	$1,894.00	2	0	$0	B	
COOL VESTS	EA	$137.50	6	0	$0	C/B	
THERMO STRIPS	EA	$50.00	6	0	$0	C/B	
SUB-TOTAL					$0		

	MAT'L.$'s
TOTAL PPE's =	$0

(FORWARD TO PAGE 2 OF 2)

OTHER PPE's SUCH AS HARD HAT, SAFETY GLASSES/GOGGLES, STEEL TOED SAFETY SHOES, HEARING PROTECTION, ARE CONSIDERED THE SUBCONTRACTORS RESPONSIBILITY AND ARE COVERED IN HIS OVERHEAD EXPENSE.
COSTS OF FD FERNALD SUPPLIED PPE's, SUCH AS COTTON COVERALLS, EXCHANGE OF RUBBER BOOT COVERS AND RESPIRATORS FOR CHANGEOUTS AND CLEANING OF SAME IS INCURRED BY FD FERNALD AND COSTS ARE NOT INCLUDED AS PART OF PROJECT COSTS AT THIS TIME.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: OSDF BASELINE CELL 6 LINER CCPLG FY07
ESTIMATE NO.: C2-01-05-01-G7
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

--MEDICAL MONITORING --

MEDICAL - PHYSICAL and IN-VIVO MONITORING - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION PHYSICAL (3hrs), IN-VIVO (1hr)	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $
BASELINE PHYSICALS	1	4	0	0	$27.29	$0
ANNUAL PHYSICALS	0	4	0	0	$27.29	$0
EXIT (TERMINATION) PHYSICALS (IN-VIVO)	1	1	0	0	$27.29	$0
SUB-TOTAL						$0

RADIATION IN-VITRO SURVEILLANCE - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $
BI-MONTHLY BIOASSAY	6	1	0	0	$27.29	$0
SUB-TOTAL						$0

RANDOM DRUG TESTING

	TESTS	HRS	TOTAL HOURS	AVG. RATE	LABOR $'s
	3	2	6	$27.29	$200

NO. OF WKRS. TESTED	TESTING DAYS PER YR.	AVG. NO. OF TESTS PER DAY	CHANCE/ DAY FOR TEST	NO. OF WKRS. FOR THIS ESTIMATE	CHANCES /DAY FOR TEST FOR PROJECT	CONSTR WORKING DAYS
2340	226	10	0.004274	20	0.0855	33

		LABOR $'s THRU SAFETY	LABOR $'s
WORK DELAYS CAUSED BY MONITORING	0.5%	$66,930	$300
			LABOR $'s
WORK DELAYS CAUSED BY RAD CHECKING	0.5%	$66,930	$300

	TOTAL LABOR	TOTAL MAT'L.	GRAND TOTAL
TOTAL HEALTH PHYSICS	$800	$0	$800

(FORWARD TO ESTIMATE SUMMARY SHEET)

APPENDIX "D"

ACTIVITY DURATIONS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 6 LINER CCPLG FY07
ESTIMATE NO. C2-01-05-01-G7
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLG

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION	Days per Schedule	
						Each Year		
Monitoring Well	04-May-01	18-Aug-05	08-Sep-05	30-Sep-05	1.4	MONTHS	31	14.4%
Liner		03-Apr-06	13-Jul-06	23-Oct-06	6.7	MONTHS	142	68.1%
Video & Demob		07-Nov-06	03-Dec-06	29-Dec-06	1.7	MONTHS	34	17.4%
TOTAL					9.8	MONTHS		
					10.0		207	

	DATE of EST. to MID-POINT ACTIVITY DURATION	
a.	52.3	MONTHS
b.	1285	MONTHS

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION
OPERATIONS					0	MONTHS

DATE of EST. to MID-POINT ACTIVITY DURATION	
0	MONTHS

ACTIVITY DURATION IS USED IN DETERMINING NUMBER of WORKERS for CERCLA/SAT TRAINING HOURS and HEALTH PHYSICS COSTS.

TRAINING

PROJECT:	OSDF BASELINE CELL 6 LINER CCPLG FY07	DATE:	17-May-01
ESTIMATE #:	C2-01-05-01-G7	ESTIMATOR:	RIS
CLIENT:	DOE	LOCATION:	FERNALD
WBS #:	1.1.C.D	TASK #:	CCPLG

FLUOR FERNALD

Site Access Training Requirements (RM-0055 Rev. 1 Effective: 09/30/99)

Training Requirements	Non-Hazardous	Occasional Site Worker	General Site Worker		
Access Area	Administrative Support Area	Controlled Area	Contamination Compound	Frequency	
	8 Hour	24 Hour Hazwoper	40 Hour Hazwoper		
General Employee Training	X	X	X	Annually	
Site Worker Training		X	X	One Time	
Rad. Worker I		X		Biennially	
Rad. Worker II			X	Biennially	
Respirator Training *			X	Annually	
Respirator Fit Testing *			X	Annually	
Supervised Field Experience	0 HR	8 HR	24 HR	One time →	*On the Job*
Site Worker Refresher		X	X	Annually ⇨	4 Hour
Rad. Worker I Retraining		X		Every 2 years ⇨	4 Hour
Rad. Worker II Retraining			X	Every 2 years ⇨	8 Hour

Additional Training	HRS	No. of Workers	Total Hours
Job Specific Training =	2	7	14
Fire Watch Training =	1	2	2
Lead Worker Training =	4	7	28
Lock out / Tag out Training =	8	3	24
Rigging Training =	24	4	96
Scaffold Training =	16	4	64

DURATION	10 Month(s)		
Average Rate $	27.29		
Number of General Site Worker(s)	2	General Site Worker Training Cost	$2,162
Number of Occasional Site Worker(s)	1	Occasional Site Training Cost	$655
Number of Non-Hazardous Worker(s)	1	Non-Hazardous Training Cost	$218
		Additional Training Cost	$6,223
Total Training Hours	339	Total Training Cost =	$9,258

* = All employees classified as General Site Worker must initially take respirator training. The annual requirement for the repeat of training and the fit test frequency requirements are only needed by those employees that are required to wear a respirator.

CCPLH

OSDF CELL #6 CAP

09/07/2001
11:38 AM

PBS: OHFN03
WBS: 1.1.C.D
CTRL ACCT: CCPL
CHARGE NO: CCPLH
COMMENT NO N/A

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

DATE: 05-Sep-01
PROJECT MGR: JD Chiou
CAM: JD Chiou
PREPARED BY: W. F. Fick
FISCAL YEAR: 2009-2010

Resource: FIELDSUB **FIELD SUBS** **EOC:** SUBCONTRACTORS
Res Dept: 949 **Overtime:** **Class:** SUB

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Units:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3,361,976.0	949,994.0
Cum Units:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3,361,976.0	4,311,970.0
Yr Total Cost:	0	0	0	0	0	0	0	0	4,201,295	1,221,588
Cum Total Cost:	0	0	0	0	0	0	0	0	4,201,295	5,422,884

GRAND TOTALS:

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Total Cost:	0	0	0	0	0	0	0	0	4,201,295	1,221,588
Cum Total Cost:	0	0	0	0	0	0	0	0	4,201,295	5,422,884

CAM_____ CONTROL TEAM_____

INCLUDES ESCALATION COSTS

CC PLH

Fluor Fernald, Inc.

PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #2, #3, #4, #5, #6 & #7 Caps
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-05-A5 & A6
C2-2001-005-05-B6 & B7
C2-2001-005-05-D7 & D8
C2-2001-005-05-F8 & F9
C2-2001-005-05-H9 & H10
C2-2001-005-05-K9 & K10

BASIS OF ESTIMATE

SUPPORTING DOCUMENTATION:

Verbal Scope	☒	P & ID's	☐	Work Plan	☐
Drawings	☐	Equipment List	☐	Site Walk	☐
Sketches	☐	Specifications	☐	Eng. Mtg.	☒
Flow Diagrams	☐	Written Scope	☒	Estimate	☐

TYPE OF ESTIMATE:

Change Proposal	☐	Government	☐
Plan/Feasibility	☐	Conceptual	☐
Construction	☐	Title I Design	☐
Budget	☒	Independent	☐

BASIS OF ESTIMATE:

These estimates present the baseline cost for construction of the OSDF Cell caps. Each cell comprises two estimates, the earlier FY for the Bio-intrusion Barrier and the latter FY for the Filter, Vegetative Cover, and Vegetation. The included scope is from the Baseline Closure Plan and associated supporting documents. Durations are from the OSDF schedules and are presented in Appendix D. Control and Management is not included in these estimates; it is, however, included in a separate C & M estimate. Both projects are by the sub-contractor. Surveying by a three person sub-contractor crew at $140/hour is included. Both the surveying and project staffing costs are allocated among the various simultaneous OSDF projects per the OSDF documents and chart. Equipment operating costs assume an 85% operations factor unless otherwise indicated.

Fluor Fernald, Inc.

PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #2, #3, #4, #5, #6, & #7 Caps
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-05-A5 & A6
C2-2001-005-05-B6 & B7
C2-2001-005-05-D7 & D8
C2-2001-005-05-F8 & F9
C2-2001-005-05-H9 & H10
C2-2001-005-05-K9 & K10

Fluor Fernald purchases geo-synthetics (GML, Geotextile, etc.). Deployment of the geo-synthetics is by the sub-contractor. Welding and sewing is by a specialty contractor.

Fluor Fernald, Inc.
PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #2, #3, #4, #5, #6, & #7 Caps
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-05-A5 & A6
C2-2001-005-05-B6 & B7
C2-2001-005-05-D7 & D8
C2-2001-005-05-F8 & F9
C2-2001-005-05-H9 & H10
C2-2001-005-05-K9 & K10

ESTIMATE ASSUMPTIONS

EXECUTION:

- ☒ This project is to be performed on a 50-hour week, 10 hours a day.
- ☐ This project is to be performed on a 40-hour week, 8 hours a day.
- ☒ Premium time allowed.

WAGE RATES:

- ☒ Wage rates within this estimate are based on Project Labor Agreement rates, effective October 2000 and are considered FY01 dollars for estimating.
- ☐ Wage rates within this estimate are based on FF Support Contractor FSC 645 wage rates, effective January 30, 2001 and are considered FY01 dollars for estimating.
- ☐ Wage rates within this estimate are based on FF FTE Planning Labor Rates FY01.

ENGINEERING:

- ☒ N/A
- ☐ Engineering dollars provided by the Project Engineer.
- ☐ Engineering dollars have been factored in at the standard 12% of the total direct and indirect field costs as per request of Project Engineer.

CONSTRUCTION MANAGEMENT:

- ☐ N/A
- ☒ Construction Management staffing by discipline has been included.
- ☐ Construction Management dollars have been factored in at the standard 30% of the total direct and indirect field costs as per request of Project Engineer.

PROJECT MANAGEMENT:

- ☒ N/A

Fluor Fernald, Inc.
PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #2, #3, #4, #5, #6, & #7 Caps
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-05-A5 & A6
C2-2001-005-05-B6 & B7
C2-2001-005-05-D7 & D8
C2-2001-005-05-F8 & F9
C2-2001-005-05-H9 & H10
C2-2001-005-05-K9 & K10

☐ Project Management dollars provided by the Project Engineer.
☐ Project Management dollars have been factored in at the standard 30% of the total direct and indirect field costs as per request of Project Engineer.

WASTE PROGRAM MANAGEMENT:
☒ N/A
☐ Waste Program Management dollars provided by the Project Engineer.

PRODUCTIVITY:
A productivity factor has been developed and applied to the unit man-hours derived from MEANS, Richardson, NECA, and or any other published estimating source. See attachment APPENDIX "A" and APPENDIX "B".

ESCALATION:
Escalation costs are excluded from the target estimate. The escalation costs are calculated within the Micro-Frame computer system according to the plan for rebaselining.

UNIT RATES:
Unit man-hours and material dollars are based on Richardson, MEANS, NECA, National Constructor, historical data at Fernald, and or other published rates. Some man-hours and equipment requirements are provided by engineering and CM. Equipment rental rates and hourly operating costs are from the Blue Book Volume 1.

G & A (HO EXPENSE):
G & A are excluded from the target estimate. The G & A cost are calculated within the Micro-Frame computer system according to the plan for rebaselining.

Fluor Fernald, Inc.
PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #2, #3, #4, #5, #6, & #7 Caps
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-05-A5 & A6
C2-2001-005-05-B6 & B7
C2-2001-005-05-D7 & D8
C2-2001-005-05-F8 & F9
C2-2001-005-05-H9 & H10
C2-2001-005-05-K9 & K10

HEALTH PHYSICS:
See attached APPENDIX "C".

RISK BUDGET:
N/A

CONTINGENCY:
N/A

Fluor Fernald, Inc.

PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #2, #3, #4, #5, #6, & #7 Caps
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-05-A5 & A6
C2-2001-005-05-B6 & B7
C2-2001-005-05-D7 & D8
C2-2001-005-05-F8 & F9
C2-2001-005-05-H9 & H10
C2-2001-005-05-K9 & K10

ESTIMATE INCLUSIONS & EXCLUSIONS

INCLUSIONS:

- Mobilization.
- Demobilization.
- Labor hours.
- Material dollars.
- Equipment rental.
- Equipment operating.
- Contractor staffing.
- Geosynthetics purchase by FF.

EXCLUSIONS:

- Permits and fees.
- FF G & A (Home Office Expense).
- Escalation due to volatile petroleum costs.
- Any second tier subcontract costs.
- Project Management dollars.
- Waste Management dollars.
- Control & Management
- Landlord costs.

ESTIMATE SUMMARY SHEET

PROJECT: Baseline OSDF CELL #6 CAP, FY10
ESTIMATE #: C2-01-05-05-H10
CLIENT: DOE
WBS #: 1.1.C

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLH

ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	EQUIP. $	TOTAL $
Insurance & Bond				incl in prior FY			
Submittals	89		$2,100		$100		$2,200
Overhead and Profit				$99,400			$99,400
Off Hours Dust Control w/FY 07							
Mobilization				$1,720	$40		$1,760
Site Preparation							
Granular Filter layer	820		$19,790		$61,200	$40,650	$121,640
Vegetative Soil Layer	2,600		$62,650			$107,960	$170,610
Vegetation	409		$9,670	$10,880	$24,180	$2,810	$47,540
Stabilization of Stockpiles	200		$4,960	$10,000		$4,210	$19,170
Close Out	463		17,720	$1,100	$750	$970	$20,540
Survey				$8,200			$8,200
Project Staffing	574		18,540				$18,540
DIRECT FIELD COSTS TOTAL	**5,155**	**$26.27**	**$135,430**	**$131,300**	**$86,270**	**$156,600**	**$509,600**
SUPERVISION - CONTRACTOR							
SMALL TOOLS & CONSUMABLES	-	-	-		$2,000		$2,000
MISC. EQUIP. RENTAL	-	-	-			$7,600	$7,600
TEMPORARY FACILITIES incl w/Mobilization							
TEMPORARY UTILITY HOOK-UP incl w/Mobilzation							
JOB CLEAN-UP incl w/Job Close-out							
PER DIEM / SUBSISTANCE	-	-	-				
HEALTH PHYSICS S/C incl w/Submittals							
CERCLA - TRAINING incl w/Submittals							
GET/SITE ACCESS & JOB SPECIFIC TRAINING w/su							
PAYROLL BURDENS & BENEFITS	-	-	$77,200				$77,200
OVERHEAD & PROFIT see above	-	-	-				
BOND see above	-	-	-				$7,800
SALES TAX	-	-	-		$5,300	$9,900	$15,200
INDIRECT FIELD COSTS TOTAL			**$77,200**		**$7,300**	**$17,500**	**$102,000**
DIRECT & INDIRECT FIELD COSTS TOTAL	**5,155**		**$212,630**	**$131,300**	**$93,570**	**$174,100**	**$611,600**
TARGET ESTIMATE			**(FY 01 DOLLARS)**				**$611,600**

ESTIMATE PERFORMED BY ESTIMATING SERVICES

ESTIMATE SUMMARY SHEET

PROJECT: Baseline OSDF CELL #6 CAP, FY10 — DATE: 17-May-01

ESTIMATE NO. C2-01-05-05-H10 — ESTIMATOR: RIS

CLIENT: DOE — LOCATION: FERNALD

WBS NO.: 1.1.C — TASK NO.: CCPLH

FACTORS

FIXED PRICE :	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
DFC DOLLARS	$135,430	$131,300	$86,270	$156,600		$509,600
IFC COST FACTOR	1.5700	–	1.0232	1.0485	–	
BOND + OVERHEAD & PROFIT COST FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	
SALES TAX	-	-	1.0600	1.0600	1.0600	
DIRECT FIELD COST FACTOR =	1.5700	1.0000	1.0846	1.1114	1.0600	
BASE ESTIMATE $'S	$212,630	$131,300	$93,566	$174,052		$611,548
BASE FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	
TARGET ESTIMATE FACTOR	1.5700	1.0000	1.0846	1.1114	1.0600	
FPS TARGET ESTIMATE (FY00 $)	$212,630	$131,300	$93,566	$174,052		$611,548

NOTE:

IF THERE ARE NO DFC EQUIP. $. ENTER THE IFC EQUIP. $'S INTO THE DIRECT FIELD COST TOTAL AND DELETE IFC FACTOR IN G65.

ESTIMATE SUMMARY SHEET

PROJECT: Baseline OSDF CELL #6 CAP, FY10 | **DATE:** 17-May-01

ESTIMATE NO. C2-01-05-05-H10 | **ESTIMATOR:** RIS

DIRECT FIELD COST W/FACTORS

CLIENT: DOE | **LOCATION:** FERNALD

WBS NO.: 1.1.C | **TASK NO.:** CCPLH

PAY ITEM NO.	DESCRIPTION	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
		(ASSIGN OR PRORATE PPE MAT'L.$'S)-->>					
	Insurance & Bond		incl in prior FY				
	Submittals	2100		100			
		$3,300		$110			$3,410
	Overhead and Profit		99400				
			$99,400				$99,400
	Off Hours Dust Control w/FY 07						
	Mobilization		1720	40			
			$1,720	$40			$1,760
	Site Preparation						
	Granular Filter layer	19790		61200	40650		
		$31,070		$66,380	$45,180		$142,630
	Vegetative Soil Layer	62650			107960		
		$98,360			$119,990		$218,350
	Vegetation	9670	10880	24180	2810		
		$15,180	$10,880	$26,220	$3,120		$55,400
	Stabilization of Stockpiles	4960	10000		4210		
		$7,790	$10,000		$4,680		$22,470
	Close Out	17720	1100	750	970		
		$27,820	$1,100	$810	$1,080		$30,810
	Survey		8200				
			$8,200				$8,200
	Project Staffing	18540					
		$29,110					$29,110
TOTAL DIRECT FIELD COSTS W/FACTORS		(FY01 DOLLARS)					$611,540

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #6 CAP, FY10
ESTIMATE NO.: C2-01-05-05-H10
CLIENT: DOE
WBS NO.: 1.1.C

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLH

ITEM NO.	SUMMARY	QTY	UNIT	MAN-HOURS			COST / UNIT				LABOR	S/C	MAT'L	EQUIP	TOTAL
				Unit	Total	Rate	Labor	S/C	Mat'l	Equip					
	Insurance & Bond											incl in prior FY			
	Submittals w/FY 05				89						$2,100		$100		$2,200
	Overhead and Profit											$99,400			$99,400
	Mobilization											$1,720	$40		$1,760
	Site Preparation														
	Survey											$8,200			$8,200
	Granular Filter layer				820						$19,790		$61,200	$40,650	$121,640
	Vegetative Soil Layer				2,600						$62,650			$107,960	$170,610
	Vegetation				409						$9,670	10,880	24,180	2,810	$47,540
	Stabilization of Stockpiles				200						$4,960	10,000		4,210	$19,170
	Close Out				463						$17,720	1,100	750	970	$20,540
	Project Staffing				574						$18,540				$18,540
	Off Hours Dust Control w/FY 07														
	Subtotal Direct Cost	1	LOT		5155	$26.27					135,430	131,300	86,270	156,600	$509,600

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #6 CAP, FY10
ESTIMATE NO.: C2-01-05-05-H10
CLIENT: DOE
WBS NO.: 1.1.C

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLH

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Insurance & Bond							COST							
	Performance bond 1.3%							THRU							
	Insurance 1.5%							OH & P							
	Sub-total 2.8%	16700						596400				incl in prior FY			
	Submittals														
D	Plans														
D	Technical submittals														
D	Site access & GET traing, cnstrct work force														
D	Site access & GET traing, PM, CM etc														
D	Site access & GET traing, surveyers & others			incl w/FY 05											
mD	CERCLA/RAD II training, constrct work force														
mD	CERCLA/RAD II traing, PM, CM etc														
mD	CERCLA/RAD II traing, surveyers & others														
D	Health Physics	1	LOT		89	23.64					$2,100		$100		$2,200
	Sub-total				89						$2,100		$100		$2,200
	Overhead and Profit														
				20%								$99,400			$99,400

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #6 CAP, FY10
ESTIMATE NO.: C2-01-05-05-H10
CLIENT: DOE
WBS NO.: 1.1.C

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLH

Mobilization	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
S/C Office Trailer 2 reqd	1.1	MO					550				$1,160			$1,160
Support trailers 1 reqd	1.1	MO					350				$370			$370
Portable toilets 2 ea	1.1	MTH					85				$180			$180
Potable water, Allow 5jug/mth, $8/jug	1.1	MTH					12	40			$10	$40		$50
Mobilization											1,720	40		$1,760

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #6 CAP, FY10
ESTIMATE NO.: C2-01-05-05-H10
CLIENT: DOE
WBS NO.: 1.1.C

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLH

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Off Hours Dust Control Included w/ Cell 2 Cap FY08														
D	Survey 1.1 mth							140				$8,200			$8,200
	Subtotal Direct Cost	1	LOT									$8,200			$8,200

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #6 CAP, FY10
ESTIMATE NO.: C2-01-05-05-H10
CLIENT: DOE
WBS NO.: 1.1.C

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLH

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Granular Filter layer														
	Granular filter, sand, 10% waste	12000	ton						5.1				$61,200		$61,200
	Receive & stockpile	12000	ton												
D	1 operator	6	DAY	10	60	27.03					$1,620				$1,620
D	1 laborer	6	DAY	10	60	22.65					$1,360				$1,360
	Dozer, D8 6 day -	0.28	MTH							13145				$3,640	$3,640
	Dozer, D8 @85%		HR	51						39.66				$2,020	$2,020
	Load, haul, & place														
D	2 operators	10	DAY	20	200	27.03					$5,410				$5,410
D	1 laborer	10	DAY	10	100	22.65					$2,260				$2,260
D	4 teamsters	10	DAY	40	400	22.86					$9,140				$9,140
	Dozer, D6 LGP 10 day -	0.46	MTH							8245				$3,810	$3,810
	Loader, Cat 966 10 day -	0.46	MTH							6820				$3,150	$3,150
	4 Trucks, Volco A30 10 day -	0.46	MTH							7905				$14,590	$14,590
	Dozer, D6 LGP @85%		HR	85						24.76				$2,100	$2,100
	Loader, Cat 966 @ 85%		HR	85						24.90				$2,120	$2,120
	4 Trucks, Volco A30 @ 85%		HR	340						27.12				$9,220	$9,220
	Granular Filter layer	1	LOT		820	$24.13					19,790		61,200	40,650	$121,640

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #6 CAP, FY10
ESTIMATE NO.: C2-01-05-05-H10
CLIENT: DOE
WBS NO.: 1.1.C

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLH

ITEM NO.			QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Vegetative Soil Layer															
	Load & haul															
D	1 operator		20	DAY	10	200	27.03					$5,410				$5,410
D	6 teamsters		20	DAY	10	1200	22.86					$27,430				$27,430
	Excavator Cat 330		0.92	MTH							11490				$10,610	$10,610
	6 Trucks, Volco A30		0.92	MTH							7905				$29,190	$29,190
	Excavator, Cat 330 @ 85%			HR	170						24.90				$4,230	$4,230
	6 Trucks, Volco A30 @ 85%			HR	1020						27.12				$27,660	$27,660
	Place Vegetative Soil Layer															
D	3 operator		20	DAY	10	600	27.03					$16,220				$16,220
D	3 laborers		20	DAY	10	600	22.65					$13,590				$13,590
	Dozer Cat D6		0.92	MTH							7040				$6,500	$6,500
	Sheepsfoot roller, Cat 825		0.92	MTH							4335				$4,000	$4,000
	Smooth drum roller, Cat 563		0.92	MTH							13390				$12,360	$12,360
	Dozer Cat D6 @	85%		HR	170						21.87				$3,720	$3,720
	Sheepsfoot roller @	85%		HR	170						41.55				$7,060	$7,060
	Smooth drum roller, Cat 825 @	85%		HR	170						15.48				$2,630	$2,630
	Sub-total					2600						$62,650			$107,960	$170,610
	Vegetation															
D	Erosion mat, jute		315810	sf	0.001	409	23.64			0.077	0.009	$9,670		$24,180	$2,810	$36,660
D	Vegetation		7.25	acre					1500				$10,880			$10,880
	Sub-total					409						$9,670	10880	24180	2810	$47,540
	Stabilization of Stockpiles															
D	Laborers, 2 reqd		5	DAY	20	100	22.65					$2,260				$2,260
D	Operator, 2 reqd		5	DAY	20	100	27.03					$2,700				$2,700
	Dozer D6	1 wk	0.23	MTH							7040				$1,620	$1,620
	Steel drum roller	1 wk	0.23	MTH							4335				$1,000	$1,000
	Dozer D6 @ 85 %			HR	43						21.87				$930	$930
	Steel drum roller @ 85%			HR	43						15.48				$660	$660
	Crusting agent		5	acre					2000				$10,000			$10,000
	Sub-total					200						$4,960	$10,000		$4,210	$19,170

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #6 CAP, FY10
ESTIMATE NO.: C2-01-05-05-H10
CLIENT: DOE
WBS NO.: 1.1.C

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLH

ITEM NO.		QTY	UNIT	Unit	Total	Rate	COST/UNIT Labor	S/C	Mat'l	Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Close Out														
D	Job Clean-up	1	LOT	1%	32	23.64					$750		$250		$1,000
D	Project Closeout documents	25	EA	10	250	50.64					$12,660				$12,660
	Demobilization														
D	Complete Punch List Items.	1	LS	80	80	23.64				100	$1,890			$100	$1,990
D	Remove Trailers	1	LS	8	8	23.64		1,000	500	500	$190	$1,000	$500	$580	$2,270
D	Remove Utilities.	1	LS	20	20	24.93		100			$500	$100			$600
D	Loadout Contractors Equipment.	25	EA	2	50	23.64				10	$1,180			$290	$1,470
D	Remove fence	1000	LF	0.023	23	23.64					$550				$550
	Subtotal				463						$17,720	1100	750	970	$20,540
		1	LOT		926	$38.27					35,440	2,200	1,500	1,940	$41,080

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #6 CAP, FY10
ESTIMATE NO.: C2-01-05-05-H10
CLIENT: DOE
WBS NO.: 1.1.C

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLH

ITEM NO.			QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Project Staffing		Shared percent													
D	Project Manager	2.2 mth	25%	hr	1	29	54.42					$1,570				$1,570
D	General Superintendent	2.2 mth	25%	hr	1	29	37.85					$1,090				$1,090
D	Superintendent	2.2 mth	30%	hr	2	124	32.99					$4,090				$4,090
D	Project Engineer	2.2 mth	40%	hr	1	83	33.19					$2,740				$2,740
D	Quality Engineer	2.2 mth	37.5%	hr	2	155	28.05					$4,350				$4,350
D	Safety Engineer	2.2 mth	37.5%	hr	2	155	30.34					$4,700				$4,700
D	Office Administration	in overhead					19.31									
D	Contract Administration/ Schedul	in overhead					25.58									
D	Clerical	in overhead					14.58									
	TOTAL					574	32.28					$18,540				$18,540
			1	LOT												

APPENDIX " A"

PROJECT: Baseline OSDF CELL #6 CAP, FY10
ESTIMATE NC C2-01-05-05-H10
CLIENT: DOE
WBS NO.: 1.1.C

SITE SPECIFIC

EFFICIENCY / MULTIPLIER ANALYSIS

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLH

PERCENT OF INFLUENCE ON CHART MANHOURS

	40%	50%	60%	70%	80%	90%	100%	105%	110%	% OF NFLUENCE	WT'D VALUE	PROD. RESULT
CRAFT SKILL (NOTE 1)	POOR			FAIR			STD	V.GOOD	EXCELLENT	90.0%	12.0%	0.108
CRAFT AVAIL.(NOTE 1)		POOR		FAIR			STD			100.0%	8.0%	0.08
CLIMATE (NOTE 2)	SEVERE	ICE/SNOW			RAIN		+40 TO +85			80.0%	20.0%	0.16
PLANT ELEVATION		OVER 10,000FT			5,000' TO 10,000 FT		UNDER 5,000 FT			100.0%	5.0%	0.05
WORK SPACE				200 SF	250 SF	300 SF	350 SF			100.0%	10.0%	0.1
	<---- MULTIPLE SHIFTS-											
WORK WEEK						5-10s per Means R010-110				85.0%	15.0%	0.1275
50 HOUR WORK WEEK	////////// //// MULTIPLE-SHIFT ////	//////////	//////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS				0.0%	0.0%	0
60 HOUR WORK WEEK	////////// //////////	////////// //////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS					0.0%	0.0%	0
SHIFTWORK 2ND SHIFT 3RD SHIFT			 3RD SHIFT		 2ND SHIFT		OR ONE SHIFT ONLY			 100.0% 100.0%	 3.0% 5.0%	 0.03 0.05
PROJECT SIZE					400M MH AND UP	300M TO 400M MH	200M TO 300M MH	200M MH OR LESS		105.0%	4.0%	0.042
PLANT TYPE				REVAMP ONLY	REVAMP & NEW	NEW IN EXIST PLT	GRASS ROOTS			95.0%	8.0%	0.076
AREA/UNION INFLUENCE	STRONG		MILD		SOME		NONE			80.0%	10.0%	0.08
											100.0%	90.4%

NOTES.....
1. TURNOVER HAS BEEN CONSIDERED

2. FOR EXTERIOR WORK ONLY

EFFICIENCY (AS A % OFF CHART MANHOURS) 90.4%

MULTIPLIER - (TO BE APPLIED TO CHART M.H.'S TO OBTAIN SITE M.H.'S) 1.11

EFFICIENCY FACTORS

PROJECT: Baseline OSDF CELL #6 CAP, FY10
ESTIMATE NO. C2-01-05-05-H10
CLIENT: DOE
WBS NO.: 1.1.C

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLH

EXAMPLE:

STANDARD CHART MANHOURS =	NET	100
EFFICIENCY FACTORS:		
* SITE SPECIFIC (SEE APPENDIX A)	[redacted]	11.0
S/T = BASE UNIT MANHOURS		111
OVERTIME PRODUCTIVITY FACTOR (SEE DETAIL WORKSHEET BACK-UP)	0.00%	0
		111
* TASK SPECIFIC (confined space, high elevation, congestion, etc.)	0.0%	0
		111

* PPE SPECIFIC (Based on current data and estimating knowledge)

	PPE LEVEL									
	D		Mod.'D'		Mod. "C"		C		C+	
PRODUCTIVITY HOURS		MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's
(AS A %) / ADD MH's	5.00%	6	27.00%	30	64.00%	71	72.00%	80	96.00%	107
(AS A MULTIPLIER)/TOTAL HRS	1.05	116.6	1.27	141	1.64	182	1.72	190.9	1.96	217.6
TOTAL MULTIPLIER w/SITE PROD.	1.1655		1.4097		1.8204		1.9092		2.1756	

NOTE : Use the Default Productivity Factor of 'mC' for working in a contaminated area if the Safety Level cannot be determined.

(SEE FD FERNALD ESTIMATING SERVICES REFERENCE MANUAL IM-6006 8.10)

Total hours worked in a specific PPE level divided by 10 hour working days = (PPE) ManDays to determine material cost of PPE's.
(SEE APPENDIX C - HEALTH PHYSICS)

	12.0	Man Days	14.0	Man Days	18.0	Man Days	19.0	Man Days	22.0	Man Days

THESE EFFICIENCY FACTORS WERE APPLIED INDIVIDUALLY THROUGHOUT THE ESTIMATE AT A TASK SPECIFIC LEVEL, TO OBTAIN A MORE ACCURATE ACCOUNT OF OVERALL EFFICIENCY IMPACT DUE TO PPE REQUIREMENTS IN HANDLING CONTAMINATED AND HAZARDOUS WASTE.

EFFICIENCY FACTORS

PROJECT: Baseline OSDF CELL #6 CAP, FY10
ESTIMATE NO. C2-01-05-05-H10
CLIENT: DOE
WBS NO.: 1.1.C

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLH

PPE MULTIPLIER DEVELOPEMENT

		D	mD	mC	C	C+
CREW SIZE & MAKE-UP	STANDARD	7	7	7	7	7
	WORKER-BUDDY	0	0	0	0	0
	SUPPORT TEAM	0	0	0	0	0
	TOTAL CREW	7	7	7	7	7
CREW SIZE RATIO		1.00	1.00	1.00	1.00	1.00
AVAILABLE WORK TIME FACTOR		0.95	0.79	0.71	0.71	0.68
PPE LABOR PRODUCTIVITY FACTOR		1	1	0.86	0.82	0.75
NET PRODUCTIVITY RATIO		0.95	0.79	0.611	0.582	0.51
NET PRODUCTIVITY MULTIPLIER		1.05	1.27	1.64	1.72	1.96

These factors were based on Tables 6.1 and 6.2, Moderate Work Efforts, 66F to 85F temperature of 'Hazardous Waste Cost Control' by R.A.Selg.
Modifications were made to reflect a 10 hour work day and no buddy system or support team for levels D, mC and C.
The worker-buddy and support team members, if required, may be covered under Construction Mgmt. (Rad Techs).

AVAILABLE WORK TIME FACTOR		D	mD	mC	C	C+
TOTAL WORK MINUTES per [5 - 10's		600	600	600	600	600
ADDITN'L.SITE SAFETY MEETINGS NOT INCLD. IN BAS	QUANTITY	1	1	1	1	1
	MINUTES	25	25	25	25	25
TOTAL		25	25	25	25	25
PPE DON & DOFFING	QUANTITY	0	0	3	3	3
(ADJUST LEVEL D per WORK PLAN)	MINUTES	0	0	15	15	20
TOTAL			0	45	45	60
WORK BREAKS	QUANTITY	N/A	2	2	2	2
(ADJUST LEVEL D per WORK PLAN)	MINUTES	N/A	15	15	15	15
TOTAL			30	30	30	30
MOBILIZATION - ROUND TRIPS	QUANTITY	N/A	4	4	4	4
(ADJUST LEVEL D per WORK PLAN)	MINUTES	N/A	15	15	15	15
TOTAL			60	60	60	60
COOLDOWNS PER DAY	QUANTITY	2	3	4	4	4
** (2 OUT OF 8 MONTHS) 25.00%	MINUTES	10	12	15	15	15
TOTAL		5	9	15	15	15
AIR TANK REPLACEMENT	QUANTITY	N/A	N/A	N/A	N/A	N/A
	MINUTES	N/A	N/A	N/A	N/A	N/A
TOTAL						
AVAILABLE WORK TIME		570	476	425	425	410
AVAILABLE WORK TIME FACTOR		0.95	0.79	0.71	0.71	0.68

NOTE: Adjust 'Work Minutes per Day' basis to: 5 - 8's, or leave as 4 - 10's. Any other circumstances, over-ride the minutes per day.

** Assumption based on work performed in May, June, July & August, pro-rating cost over one year. Adjust % to individual circumstances. Changed to July & August over an 8 mth period.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: Baseline OSDF CELL #6 CAP, FY10
ESTIMATE NO. C2-01-05-05-H10
CLIENT: DOE
WBS NO.: 1.1.C

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLH

PPE"s - PERSONAL PROTECTIVE EQUIPMENT

DESCRIPTION	UNIT	UNIT COST	* NO. OF CHANGE OUTS PER WORKER PER DAY				
			Man Days (TOTAL HOURS worked in PPE's Div. by WORK HOURS / DAY)				
PPE LEVEL C / C+ / B : F/HF MASK w/RESP.&CART.			*	MAN DAYS	MAT'L.$'s	PPE LEVEL	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	(DOUBLE PPE)
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	C / C+	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	C / C+	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	C / C+	
APR CARTRIDGES - DISPOSABLE	PR	$6.98	3	0	$0	C / C+	
SUB-TOTAL		$17.42	3		$0		
				$/MD =	$0.00		
PPE LEVEL mC : FULL DRESS w/ FACE SHIELD				MAN DAYS	MAT'L.$'s	PPE LEVEL	
LT.WT. DISPOSABLE COVERALLS W/HOOD & BOOTIE	PR	$4.46	3	0	$0	mC	
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	mC	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	mC	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	mC	
SUB-TOTAL		$5.98	3		$0		
				$/MD =	$0.00		
SUBCONTRACTOR REQUIRED PURCHASES			QTY. PER WKR.	NO. OF WORKERS	MAT'L.$'s	PPE LEVEL	
RUBBER BOOT COVERS-(1)PR.PER WORKER	PR	$12.70	2	5	$127	D/C/B	
APR w/HALF FACE MASK - (1) PER WORKER	EA	$22.30	6	0	$0	C	
APR w/FULL FACE MASK - (1) PER WORKER	EA	$174.00	6	0	$0	C	
SCBA	EA	$1,894.00	2	0	$0	B	
COOL VESTS	EA	$137.50	6	0	$0	C/B	
THERMO STRIPS	EA	$50.00	6	0	$0	C/B	
SUB-TOTAL					$130		

TOTAL PPE's = MAT'L.$'s $100

(FORWARD TO PAGE 2 OF 2)

OTHER PPE's SUCH AS HARD HAT, SAFETY GLASSES/GOGGLES, STEEL TOED SAFETY SHOES, HEARING PROTECTION, ARE CONSIDERED THE SUBCONTRACTORS RESPONSIBILITY AND ARE COVERED IN HIS OVERHEAD EXPENSE.
COSTS OF FD FERNALD SUPPLIED PPE's, SUCH AS COTTON COVERALLS, EXCHANGE OF RUBBER BOOT COVERS AND RESPIRATORS FOR CHANGEOUTS AND CLEANING OF SAME IS INCURRED BY FD FERNALD AND COSTS ARE NOT INCLUDED AS PART OF PROJECT COSTS AT THIS TIME.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: Baseline OSDF CELL #6 CAP, FY10
ESTIMATE NO. C2-01-05-05-H10
CLIENT: DOE
WBS NO.: 1.1.C

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLH

--MEDICAL MONITORING --

MEDICAL - PHYSICAL and IN-VIVO MONITORING - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION PHYSICAL (3hrs), IN-VIVO (1hr)	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $
BASELINE PHYSICALS	1	4	0	0	$26.27	$0
ANNUAL PHYSICALS	0	4	0	0	$26.27	$0
EXIT (TERMINATION) PHYSICALS (IN-VIVO)	1	1	0	0	$26.27	$0
SUB-TOTAL						$0

RADIATION IN-VITRO SURVEILLANCE - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $
BI-MONTHLY BIOASSAY	6	1	0	0	$26.27	$0
SUB-TOTAL						$0

RANDOM DRUG TESTING

	TESTS	HRS	TOTAL HOURS	AVG. RATE	LABOR $'s
	2	2	4	$26.27	$100

NO. OF WKRS. TESTED	TESTING DAYS PER YR.	AVG. NO. OF TESTS PER DAY	CHANCE/ DAY FOR TEST	NO. OF WKRS. FOR THIS ESTIMATE	CHANCES /DAY FOR TEST FOR PROJECT	CONSTR WORKING DAYS
2340	226	10	0.0042735	25	0.1068	21

		LABOR $'s THRU SAFETY	LABOR $'s
WORK DELAYS CAUSED BY MONITORING	0.5%	$133,330	$700
			LABOR $'s
WORK DELAYS CAUSED BY RAD CHECKING	0.5%	$133,330	$700

	TOTAL LABOR	TOTAL MAT'L.	GRAND TOTAL
TOTAL HEALTH PHYSICS	$1,500	$100	$1,600

(FORWARD TO ESTIMATE SUMMARY SHEET)

ACTIVITY DURATIONS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #6 CAP, FY10
ESTIMATE NO. C2-01-05-05-H10
CLIENT: DOE
WBS NO.: 1.1.C

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLH

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION	Days per Schedule	
						Each Year		
Biointrusion	04-May-01	02-Mar-09	26-Jun-09	21-Oct-09	7.7	MONTHS	164	87.9%
Filter, Veg layer, Veg		15-Oct-09	31-Oct-09	16-Nov-09	1.1	MONTHS	22	12.1%
TOTAL					8.7	MONTHS		
					9.0		186	

	DATE of EST. to MID-POINT ACTIVITY DURATION	
a.	97.9	MONTHS
b.	1320	MONTHS

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION
OPERATIONS					0	MONTHS

DATE of EST. to MID-POINT ACTIVITY DURATION	
0	MONTHS

ACTIVITY DURATION IS USED IN DETERMINING NUMBER of WORKERS for CERCLA/SAT TRAINING HOURS and HEALTH PHYSICS COSTS.

CCPLJ

OSDF CELL #7 LINER

09/07/2001
11:42 AM

PBS: OHFN03
WBS: 1.1.C.D
CTRL ACCT: CCPL
CHARGE NO: CCPLJ
COMMENT NO N/A

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

DATE: 05-Sep-01
PROJECT MGR: JD Chiou
CAM: JD Chiou
PREPARED BY: W. F. Fick
FISCAL YEAR: 2006-2008

Resource: FIELDSUB **FIELD SUBS** **EOC:** SUBCONTRACTORS
Res Dept: 949 **Overtime:** **Class:** SUB

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Units:	0.0	0.0	0.0	0.0	0.0	0.0	3,016,874.8	703,495.2	0.0	0.0
Cum Units:	0.0	0.0	0.0	0.0	0.0	0.0	3,016,874.8	3,720,370.0	3,720,370.0	3,720,370.0
Yr Total Cost:	0	0	0	0	0	0	3,560,534	854,347	0	0
Cum Total Cost:	0	0	0	0	0	0	3,560,534	4,414,881	4,414,881	4,414,881

Resource: WISE **WISE CONSTRUCTION** **EOC:** SUBCONTRACTORS
Res Dept: 949 **Overtime:** **Class:** SUB

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Units:	0.0	0.0	0.0	0.0	0.0	124,890.0	0.0	0.0	0.0	0.0
Cum Units:	0.0	0.0	0.0	0.0	0.0	124,890.0	124,890.0	124,890.0	124,890.0	124,890.0
Yr Total Cost:	0	0	0	0	0	143,242	0	0	0	0
Cum Total Cost:	0	0	0	0	0	143,242	143,242	143,242	143,242	143,242

GRAND TOTALS:

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Total Cost:	0	0	0	0	0	143,242	3,560,534	854,347	0	0
Cum Total Cost:	0	0	0	0	0	143,242	3,703,776	4,558,123	4,558,123	4,558,123

CAM _____ CONTROL TEAM _____

INCLUDES ESCALATION COSTS

CCRJ

Fluor Fernald, Inc.

PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #7 Liner
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-01-J6, J7, & J8

BASIS OF ESTIMATE

SUPPORTING DOCUMENTATION:

Verbal Scope	☒	P & ID's	☐	Work Plan	☐
Drawings	☐	Equipment List	☐	Site Walk	☐
Sketches	☐	Specifications	☐	Eng. Mtg.	☒
Flow Diagrams	☐	Written Scope	☒	Estimate	☐

TYPE OF ESTIMATE:

Change Proposal	☐	Government	☐
Plan/Feasibility	☐	Conceptual	☐
Construction	☐	Title I Design	☐
Budget	☒	Independent	☐

BASIS OF ESTIMATE:

These estimates present the baseline cost for construction of the OSDF Cell #7 liner. These three estimates comprise the Horizontal Monitoring Well FY06, Liner Placement FY07, and Video & Demobilization including close-out FY08. The included scope is from the Baseline Closure Plan and associated supporting documents. Durations are from the OSDF schedules and are presented in Appendix D. Control and Management is not included in these estimates; it is, however, included in a separate C & M estimate. Surveying by a three person sub-contractor crew at $140/hour is included. Both the surveying and project staffing costs are allocated among the various simultaneous OSDF projects per the OSDF documents and chart. Equipment operating costs assume an 85% operations factor unless otherwise indicated. Geo-synthetics (GML, Geotextile, etc.) are purchased by Fluor Fernald. Deployment of the geo-synthetics is by the sub-contractor. Welding and sewing is by a specialty contractor.

Fluor Fernald, Inc.
PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #7 Liner
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-01-J6, J7, & J8

ESTIMATE ASSUMPTIONS

EXECUTION:

- ☒ This project is to be performed on a 50-hour week, 10 hours a day.
- ☐ This project is to be performed on a 40-hour week, 8 hours a day.
- ☒ Premium time allowed.

WAGE RATES:

- ☒ Wage rates within this estimate are based on Project Labor Agreement rates, effective October 2000 and are considered FY01 dollars for estimating.
- ☐ Wage rates within this estimate are based on FF Support Contractor FSC 645 wage rates, effective January 30, 2001 and are considered FY01 dollars for estimating.
- ☐ Wage rates within this estimate are based on FF FTE Planning Labor Rates FY01.

ENGINEERING:

- ☒ N/A
- ☐ Engineering dollars provided by the Project Engineer.
- ☐ Engineering dollars have been factored in at the standard 12% of the total direct and indirect field costs as per request of Project Engineer.

CONSTRUCTION MANAGEMENT:

- ☐ N/A
- ☒ Construction Management staffing by discipline has been included.
- ☐ Construction Management dollars have been factored in at the standard 30% of the total direct and indirect field costs as per request of Project Engineer.

PROJECT MANAGEMENT:

- ☒ N/A
- ☐ Project Management dollars provided by the Project Engineer.
- ☐ Project Management dollars have been factored in at the standard 30% of the total direct and indirect field costs as per request of Project Engineer.

Fluor Fernald, Inc.
PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #7 Liner
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-01-J6, J7, & J8

WASTE PROGRAM MANAGEMENT:

☒ N/A
☐ Waste Program Management dollars provided by the Project Engineer.

PRODUCTIVITY:

A productivity factor has been developed and applied to the unit man-hours derived from MEANS, Richardson, NECA, and or any other published estimating source. See attachment APPENDIX "A" and APPENDIX "B".

ESCALATION:

Escalation costs are excluded from the target estimate. The escalation costs are calculated within the Micro-Frame computer system according to the plan for rebaselining.

UNIT RATES:

Unit man-hours and material dollars are based on Richardson, MEANS, NECA, National Constructor, historical data at Fernald, and or other published rates. Some man-hours and equipment requirements are provided by engineering and CM. Equipment rental rates and hourly operating costs are from the Blue Book Volume 1.

G & A (HO EXPENSE):

G & A are excluded from the target estimate. The G & A cost are calculated within the Micro-Frame computer system according to the plan for rebaselining.

HEALTH PHYSICS:

See attached APPENDIX "C".

RISK BUDGET:

N/A

CONTINGENCY:

N/A

Fluor Fernald, Inc.
PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #7 Liner
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-01-J6, J7, & J8

ESTIMATE INCLUSIONS & EXCLUSIONS

INCLUSIONS:

- Mobilization.
- Demobilization.
- Labor hours.
- Material dollars.
- Equipment rental.
- Equipment operating.
- Contractor staffing.
- Geosynthetics purchase by FF.

EXCLUSIONS:

- Permits and fees.
- FF G & A (Home Office Expense).
- Escalation due to volatile petroleum costs.
- Any second tier subcontract costs.
- Project Management dollars.
- Waste Management dollars.
- Control & Management
- Landlord costs.

ESTIMATE SUMMARY SHEET

PROJECT: OSDF BASELINE CELL 7 LINER CCPLJ FY06
ESTIMATE #: C2 -01-05-01-J6
CLIENT: DOE
WBS #: 1.1.C.D

FLUOR FERNALD

DATE: 12-Sep-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	EQUIP. $	TOTAL $
Submittals	25		$600		$200		$800
Overhead and Profit				$20,530			$20,530
Mobilization	12		$310				$310
Horizontal Monitoring Well	755		$20,550		$3,440	$21,770	$45,760
Survey				$9,910			$9,910
Project Staffing	603		$19,684				$19,684
DIRECT FIELD COSTS TOTAL	**1,396**	**$29.48**	**$41,144**	**$30,440**	**$3,640**	**$21,770**	**$96,994**
SUPERVISION - CONTRACTOR							
SMALL TOOLS & CONSUMABLES	-	-	-		$600		$600
MISC. EQUIP. RENTAL	-	-	-			$2,100	$2,100
TEMPORARY FACILITIES incl w/Mobilization							
TEMPORARY UTILITY HOOK-UP incl w/Mobilzation							
JOB CLEAN-UP incl w/Job Close-out							
PER DIEM / SUBSISTANCE	-	-	-				
HEALTH PHYSICS S/C incl w/Submittals							
CERCLA - TRAINING incl w/Submittals							
GET/SITE ACCESS & JOB SPECIFIC TRAINING w/su							
PAYROLL BURDENS & BENEFITS	-	-	$23,500				$23,500
OVERHEAD & PROFIT	-	-	-				
BOND	-	-	-				
SALES TAX	-	-	-		$300	$1,400	$1,700
INDIRECT FIELD COSTS TOTAL			**$23,500**		**$900**	**$3,500**	**$27,900**
DIRECT & INDIRECT FIELD COSTS TOTAL	**1,396**	**$46.32**	**$64,644**	**$30,440**	**$4,540**	**$25,270**	**$124,894**
TARGET ESTIMATE			**(FY 01 DOLLARS)**				**$124,900**

ESTIMATE PERFORMED BY ESTIMATING SERVICES

ESTIMATE SUMMARY SHEET

PROJECT: OSDF BASELINE CELL 7 LINER CCPLJ FYC

DATE: 12-Sep-01

ESTIMATE NO. C2 -01-05-01-J6

FACTORS

ESTIMATOR: RIS

CLIENT: DOE

LOCATION: FERNALD

WBS NO.: 1.1.C.D

TASK NO.: CCPLJ

FIXED PRICE $	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
DFC DOLLARS	$41,144	$30,440	$3,640	$21,770		$96,994
IFC COST FACTOR	1.5712	–	1.1648	1.0965	–	
BOND + OVERHEAD & PROFIT COST FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	
SALES TAX	-	-	1.0600	1.0600	1.0600	
DIRECT FIELD COST FACTOR =	**1.5712**	**1.0000**	**1.2347**	**1.1623**	**1.0600**	
BASE ESTIMATE $'S	$64,644	$30,440	$4,494	$25,302		$124,881
BASE FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	
TARGET ESTIMATE FACTOR	**1.5712**	**1.0000**	**1.2347**	**1.1623**	**1.0600**	
FPS TARGET ESTIMATE (FY00 $)	$64,644	$30,440	$4,494	$25,302		$124,881

NOTE:

IF THERE ARE NO DFC EQUIP. $, ENTER THE IFC EQUIP. $'S INTO THE DIRECT FIELD COST TOTAL AND DELETE IFC FACTOR IN G65.

ESTIMATE SUMMARY SHEET

PROJECT: OSDF BASELINE CELL 7 LINER CCPLJ FYC
DATE: 12-Sep-01
ESTIMATE NO. C2 -01-05-01-J6
ESTIMATOR: RIS
CLIENT: DOE
LOCATION: FERNALD
WBS NO.: 1.1.C.D
TASK NO.: CCPLJ

DIRECT FIELD COST W/FACTORS

PAY ITEM NO.	DESCRIPTION	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
		(ASSIGN OR PRORATE PPE MAT'L.$'S)-->>					
	Submittals	600		200			
		$940		$250			$1,190
	Overhead and Profit		20530				
			$20,530				$20,530
	Mobilization	310					
		$490					$490
	Horizontal Monitoring Well	20550		3440	21770		
		$32,290		$4,250	$25,300		$61,840
	Survey		9910				
			$9,910				$9,910
	Project Staffing	19684					
		$30,930					$30,930
TOTAL DIRECT FIELD COSTS W/FACTORS		(FY01 DOLLARS)					$124,890

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 7 LINER CCPLJ FY06
ESTIMATE NO.: C2 -01-05-01-J6
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

ITEM NO.	SUMMARY	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST / UNIT Labor	COST / UNIT S/C	COST / UNIT Mat'l	COST / UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Submittals				25						$600		$200		$800
	Overhead and Profit											$20,530			$20,530
	Mobilization				12						$310				$310
	Horizontal Monitoring Well				755						$20,550		$3,440	$21,770	$45,760
	Survey											$9,910			$9,910
	Project Staffing				603						$19,684				$19,684
	Subtotal Direct Cost	1	LOT		1696	$29.48					$41,144	$30,440	$3,640	$21,770	$96,994

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 7 LINER CCPLJ FY06
ESTIMATE NO.: C2 -01-05-01-J6
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Insurance & Bond							COST							
	Performance bond 1.3%							THRU							
	Insurance 1.5%							OH & P							
	Sub-total 2.8%							123197							
	Reported w/ FY 05 = $3,450														
	Submittals														
D	Health Physics				25	23.64					$600		$200		$800
	Sub-total				25						$600		$200		$800
	Overhead and Profit			20%								$20,530			$20,530

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 7 LINER CCPLJ FY06
ESTIMATE NO.: C2 -01-05-01-J6
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

	Mobilization	QTY	UNIT	MAN-HOURS			COST/UNIT				LABOR	S/C	MAT'L	EQUIP	TOTAL
				Unit	Total	Rate	Labor	S/C	Mat'l	Equip					
	Mobilization														
D	Dozer D6	1	ea		3	27.03					$80				$80
D	Smooth drum Roller, Cat 563	1	ea		3	27.03					$80				$80
D	Excavator Cat 330	1	ea		3	27.03					$80				$80
D	Waterwagon Cat 613	1	ea		3	22.86					$70				$70
	Mobilization				12						$310				$310

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 7 LINER CCPLJ FY06
ESTIMATE NO.: C2 -01-05-01-J6
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

ITEM NO.	Horizontal Monitoring Well		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Receive HDPE pipe, geotextile, & drainage matl															
D	operator		0.5	DAY	10	5	27.03					$140				$140
D	2 laborer		0.5	DAY	10	10	22.65					$230				$230
	Forklift Cat TH83	1/2 da	0.02	MTH							3765				$90	$90
	Forklift Cat TH84 @85%			HR	8.5						12.45				$110	$110
	Install HDPE pipe, geotex, & drainage stone															
D	laborer	2 wk	10.0	DAY	10	100	22.65					$2,260				$2,260
D	2 pipefitter	2 wk	10.0	DAY	10	200	29.62					$5,920				$5,920
D	1 operator	4 wk	20.0	DAY	10	200	27.03					$5,410				$5,410
D	2 operator	2 wk	10.0	DAY	10	200	27.03					$5,410				$5,410
	Excavator Cat 330	2 wk	0.46	MTH							11490				$5,300	$5,300
	Dozer Cat D6	4 wk	0.92	MTH							7040				$6,500	$6,500
	Smooth drum roller Cat 563	2 wk	0.46	MTH							4335				$2,000	$2,000
	Excavator Cat 330 @85%		85%	HR	85						32.15				$2,730	$2,730
	Dozer, D6 @85%		85%	HR	170						21.87				$3,720	$3,720
	Smooth drum roller Cat 563		85%	HR	85						15.48				$1,320	$1,320
	Tie-in HDPE pipe to stub-outs fr valve house #4															
D	2 pipefitters		2	DAY	10	40	29.62					$1,180				$1,180
	Well casing		1	EA						100				$100		$100
	Gravel		60	TON						13				$780		$780
	Geotextile cushion, 7 oz		1,600	SF						0.06				$100		$100
	Pipe, 6" HDPE		160	LF						2.87				$460		$460
	Pipe, 6" HDPE, perf		80	LF						3.17				$250		$250
	Pipe, 10" HDPE		160	LF						7.69				$1,230		$1,230
	Tee, 6" HDPE		1	EA						66.7				$70		$70
	Tee, 6" 90 el		2	EA						56.1				$110		$110
	Bentonite		3	BAG						5				$20		$20
	12" Concrete riser pipe		20	LF						7.65				$150		$150
	12" PVC ris 20LF & 1 el		1	LOT						166				$170		$170
	Horizontal Monitoring Well					755						$20,350		$8,440	$21,770	$45,760

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 7 LINER CCPLJ FY06
ESTIMATE NO.: C2 -01-05-01-J6
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
D	Survey 1.4 MTH							68000				$9,910			$9,910
	Survey		LOT									$9,910			$9,910

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 7 LINER CCPLJ FY06
ESTIMATE NO.: C2 -01-05-01-J6
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

ITEM NO.			QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Project Staffing		Shared percent													
D	Project Manager	1.9 mth	20%	hr	1	32	54.42					$1,731				$1,731
D	General Superintendent	1.9 mth	20%	hr	1	32	37.85					$1,204				$1,204
D	Superintendent	1.9 mth	25%	hr	2	142	32.99					$4,685				$4,685
D	Project Engineer	1.9 mth	40%	hr	1	114	33.19					$3,771				$3,771
D	Quality Engineer	1.9 mth	25%	hr	2	142	28.05					$3,984				$3,984
D	Safety Engineer	1.9 mth	25%	hr	2	142	30.34					$4,309				$4,309
D	Office Administration	in overhead					19.31									
D	Contract Administration/ Schedu	in overhead					25.58									
D	Clerical	in overhead					14.58									
	TOTAL					603	32.63					$19,684				$19,684

APPENDIX "C"

HEALTH PHYSICS

PROJECT: OSDF BASELINE CELL 7 LINER CCPLJ FY06
ESTIMATE NO.: C2 -01-05-01-J6
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

PPE"s - PERSONAL PROTECTIVE EQUIPMENT

DESCRIPTION	UNIT	UNIT COST	* NO. OF CHANGE OUTS PER WORKER PER DAY Man Days (TOTAL HOURS worked in PPE's Div. by WORK HOURS / DAY)				
PPE LEVEL C / C+ / B : F/HF MASK w/RESP.&CART.			*	MAN DAYS	MAT'L.$'s	PPE LEVEL	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	(DOUBLE PPE)
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	C / C+	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	C / C+	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	C / C+	
APR CARTRIDGES - DISPOSABLE	PR	$6.98	3	0	$0	C / C+	
SUB-TOTAL		$17.42	3		$0		
				$/MD =	$0.00		
PPE LEVEL mC : FULL DRESS w/ FACE SHIELD				MAN DAYS	MAT'L.$'s	PPE LEVEL	
LT.WT. DISPOSABLE COVERALLS W/HOOD & BOOTIES	PR	$4.46	3	0	$0	mC	
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	mC	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	mC	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	mC	
SUB-TOTAL		$5.98	3		$0		
				$/MD =	$0.00		
SUBCONTRACTOR REQUIRED PURCHASES			QTY. PER WKR.	NO. OF WORKERS	MAT'L.$'s	PPE LEVEL	
RUBBER BOOT COVERS-(1)PR.PER WORKER	PR	$12.70	2	8	$203	D/C/B	
APR w/HALF FACE MASK - (1) PER WORKER	EA	$22.30	6	0	$0	C	
APR w/FULL FACE MASK - (1) PER WORKER	EA	$174.00	6	0	$0	C	
SCBA	EA	$1,894.00	2	0	$0	B	
COOL VESTS	EA	$137.50	6	0	$0	C/B	
THERMO STRIPS	EA	$50.00	6	0	$0	C/B	
SUB-TOTAL					$200		

TOTAL PPE's = MAT'L.$'s: $200

(FORWARD TO PAGE 2 OF 2)

OTHER PPE's SUCH AS HARD HAT, SAFETY GLASSES/GOGGLES, STEEL TOED SAFETY SHOES, HEARING PROTECTION, ARE CONSIDERED THE SUBCONTRACTORS RESPONSIBILITY AND ARE COVERED IN HIS OVERHEAD EXPENSE.
COSTS OF FD FERNALD SUPPLIED PPE's, SUCH AS COTTON COVERALLS, EXCHANGE OF RUBBER BOOT COVERS AND RESPIRATORS FOR CHANGEOUTS AND CLEANING OF SAME IS INCURRED BY FD FERNALD AND COSTS ARE NOT INCLUDED AS PART OF PROJECT COSTS AT THIS TIME.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: OSDF BASELINE CELL 7 LINER CCPLJ FY06
ESTIMATE NO.: C2 -01-05-01-J6
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

--MEDICAL MONITORING --

MEDICAL - PHYSICAL and IN-VIVO MONITORING - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION PHYSICAL (3hrs), IN-VIVO (1hr)	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $
BASELINE PHYSICALS	1	4	0	0	$29.48	$0
ANNUAL PHYSICALS	0	4	0	0	$29.48	$0
EXIT (TERMINATION) PHYSICALS (IN-VIVO)	1	1	0	0	$29.48	$0
SUB-TOTAL						$0

RADIATION IN-VITRO SURVEILLANCE - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $
BI-MONTHLY BIOASSAY	6	1	0	0	$29.48	$0
SUB-TOTAL						$0

RANDOM DRUG TESTING

	TESTS	HRS	TOTAL HOURS	AVG. RATE	LABOR $'s
	3	2	6	$29.48	$200

NO. OF WKRS. TESTED	TESTING DAYS PER YR.	AVG. NO. OF TESTS PER DAY	CHANCE/ DAY FOR TEST	NO. OF WKRS. FOR THIS ESTIMATE	CHANCES /DAY FOR TEST FOR PROJECT	CONSTR WORKING DAYS
2340	226	10	0.004274	25	0.1068	28

		LABOR $'s THRU SAFETY	LABOR $'s
WORK DELAYS CAUSED BY MONITORING	0.5%	$40,544	$200
			LABOR $'s
WORK DELAYS CAUSED BY RAD CHECKING	0.5%	$40,544	$200

	TOTAL LABOR	TOTAL MAT'L.	GRAND TOTAL
TOTAL HEALTH PHYSICS	$600	$200	$800

(FORWARD TO ESTIMATE SUMMARY SHEET)

APPENDIX "D"

ACTIVITY DURATIONS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 7 LINER CCPLJ FY06
ESTIMATE NO. C2 -01-05-01-J6
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION	Days per Schedule	
						Each Year		
Monitoring Well	04-May-01	16-Aug-06	07-Sep-06	29-Sep-06	1.4	MONTHS	32	14.6%
Liner		02-Apr-07	12-Jul-07	22-Oct-07	6.7	MONTHS	142	67.2%
Video & Demob		06-Nov-07	03-Dec-07	31-Dec-07	1.8	MONTHS	35	18.2%
TOTAL					9.9	MONTHS		
					10.0		209	

	DATE of EST. to MID-POINT ACTIVITY DURATION	
a.	64.2	MONTHS
b.	1297	MONTHS

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION
OPERATIONS					0	MONTHS

DATE of EST. to MID-POINT ACTIVITY DURATION	
0	MONTHS

ACTIVITY DURATION IS USED IN DETERMINING NUMBER of WORKERS for CERCLA/SAT TRAINING HOURS and HEALTH PHYSICS COSTS.

TRAINING

PROJECT:	OSDF BASELINE CELL 7 LINER CCPLJ FY06	DATE:	17-May-01
ESTIMATE #:	C2 -01-05-01-J6	ESTIMATOR:	RIS
CLIENT:	DOE	LOCATION:	FERNALD
WBS #:	1.1.C.D	TASK #:	CCPLJ

FLUOR FERNALD

Site Access Training Requirements (RM-0055 Rev. 1 Effective: 09/30/99)

Training Requirements	Non-Hazardous	Occasional Site Worker	General Site Worker		
Access Area	Administrative Support Area	Controlled Area	Contamination Compound	Frequency	
	8 Hour	24 Hour Hazwoper	40 Hour Hazwoper		
General Employee Training	X	X	X	Annually	
Site Worker Training		X	X	One Time	
Rad. Worker I		X		Biennially	
Rad. Worker II			X	Biennially	
Respirator Training *			X	Annually	
Respirator Fit Testing *			X	Annually	
Supervised Field Experience	0 HR	8 HR	24 HR	One time →	*On the Job*
Site Worker Refresher		X	X	Annually ⇨	4 Hour
Rad. Worker I Retraining		X		Every 2 years ⇨	4 Hour
Rad. Worker II Retraining			X	Every 2 years ⇨	8 Hour

Additional Training	HRS	No. of Workers	Total Hours
Job Specific Training =	2	7	14
Fire Watch Training =	1	2	2
Lead Worker Training =	4	7	28
Lock out / Tag out Training =	8	3	24
Rigging Training =	24	4	96
Scaffold Training =	16	4	64

DURATION 10 Month(s)

Average Rate $ 29.48

Number of General Site Worker(s)	1	General Site Worker Training Cost	$1,195
Number of Occasional Site Worker(s)	1	Occasional Site Training Cost	$708
Number of Non-Hazardous Worker(s)	1	Non-Hazardous Training Cost	$236
		Additional Training Cost	$6,721
Total Training Hours	301	Total Training Cost =	$8,859

* = All employees classified as General Site Worker must initially take respirator training. The annual requirement for the repeat of training and the fit test frequency requirements are only needed by those employees that are required to wear a respirator.

ESTIMATE SUMMARY SHEET

FLUOR FERNALD

PROJECT:	**Baseline OSDF CELL #7 LINER, FY07**	**DATE:**	**12-Sep-01**
ESTIMATE #:	**C2 -01-05-01-J7**	**ESTIMATOR:**	**RIS**
CLIENT:	**DOE**	**LOCATION:**	**FERNALD**
WBS #:	**1.1.C.D**	**TASK NO.:**	**CCPLJ**

ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	EQUIP. $	TOTAL $
Insurance & Bond				$99,880			$99,880
Submittals	2,626		$100,430		$200		$100,630
Overhead and Profit				$541,960			$541,960
Mobilization	70		$1,650	$3,690	$4,600		$9,940
Off Hours Dust Control				$20,000			$20,000
Survey				$45,700			$45,700
Erosion & Sed Control	60		$1,450			$1,370	$2,820
Site Preparation	1,240		$30,520		$13,910	$64,690	$109,120
Clay Liner	3,708		$89,150		$260	$182,170	$271,580
Geosynthetics Purchase by FF				$650,530			$650,530
Secondary Liner	2,775		$64,420	$87,900	$9,000	$37,460	$198,780
Primary Liner	2,400		$57,420	$271,500	$9,190	$32,360	$370,470
Secondary Drainage	1,400		$34,390		$146,100	$57,360	$237,850
Primary Drainage	1,550		$38,490		$157,220	$60,310	$256,020
Leak Detection Testing	150		$3,600	$18,600		$930	$23,130
Project Staffing	2,783		$90,830				$90,830
DIRECT FIELD COSTS TOTAL	**18,763**	**$27.31**	**$512,350**	**$1,739,760**	**$340,480**	**$436,650**	**$3,029,240**
SUPERVISION - CONTRACTOR							
SMALL TOOLS & CONSUMABLES	-	-	-		$6,200		$6,200
MISC. EQUIP. RENTAL	-	-	-			$24,200	$24,200
TEMPORARY FACILITIES incl w/Mobilization							
TEMPORARY UTILITY HOOK-UP incl w/Mobilzation							
JOB CLEAN-UP incl w/Job Close-out							
PER DIEM / SUBSISTANCE	-	-	-				
HEALTH PHYSICS S/C incl w/Submittals							
CERCLA - TRAINING incl w/Submittals							
GET/SITE ACCESS & JOB SPECIFIC TRAINING w/su							
PAYROLL BURDENS & BENEFITS	-	-	$292,000				$292,000
OVERHEAD & PROFIT	-	-	-				
BOND	-	-	-				
SALES TAX	-	-	-		$20,800	$27,700	$48,500
INDIRECT FIELD COSTS TOTAL			**$292,000**		**$27,000**	**$51,900**	**$370,900**
DIRECT & INDIRECT FIELD COSTS TOTAL	**18,763**	**$42.87**	**$804,350**	**$1,739,760**	**$367,480**	**$488,550**	**$3,400,140**
TARGET ESTIMATE			**(FY 01 DOLLARS)**				**$3,400,100**

ESTIMATE PERFORMED BY ESTIMATING SERVICES

ESTIMATE SUMMARY SHEET

PROJECT: Baseline OSDF CELL #7 LINER, FY07 — **DATE:** 12-Sep-01

ESTIMATE NO. C2 -01-05-01-J7 — **ESTIMATOR:** RIS

CLIENT: DOE — **LOCATION:** FERNALD

WBS NO.: 1.1.C.D — **TASK NO.:** CCPLJ

FACTORS

FIXED PRICE $	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
DFC DOLLARS	$512,350	$1,739,760	$340,480	$436,650		$3,029,240
IFC COST FACTOR	1.5699	–	1.0182	1.0554	–	
BOND + OVERHEAD & PROFIT COST FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	
SALES TAX	-	-	1.0600	1.0600	1.0600	
DIRECT FIELD COST FACTOR =	**1.5699**	**1.0000**	**1.0793**	**1.1187**	**1.0600**	
BASE ESTIMATE $'S	$804,350	$1,739,760	$367,481	$488,501		$3,400,092
BASE FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	
TARGET ESTIMATE FACTOR	**1.5699**	**1.0000**	**1.0793**	**1.1187**	**1.0600**	
FPS TARGET ESTIMATE (FY00 $)	$804,350	$1,739,760	$367,481	$488,501		$3,400,092

NOTE:

IF THERE ARE NO DFC EQUIP. $, ENTER THE IFC EQUIP. $'S INTO THE DIRECT FIELD COST TOTAL AND DELETE IFC FACTOR IN G65.

ESTIMATE SUMMARY SHEET

PROJECT: Baseline OSDF CELL #7 LINER, FY07 | **DATE:** 12-Sep-01

ESTIMATE NO. C2 -01-05-01-J7 | **ESTIMATOR:** RIS

CLIENT: DOE | **LOCATION:** FERNALD

WBS NO.: 1.1.C.D | **TASK NO.:** CCPLJ

DIRECT FIELD COST W/FACTORS

PAY ITEM NO.	DESCRIPTION	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
		(ASSIGN OR PRORATE PPE MAT'L.$'S)-->>					
	Insurance & Bond		99880				
			$99,880				$99,880
	Submittals	100430		200			
		$157,670		$220			$157,890
	Overhead and Profit		541960				
			$541,960				$541,960
	Mobilization	1650	3690	4600			
		$2,590	$3,690	$4,960			$11,240
	Off Hours Dust Control		20000				
			$20,000				$20,000
	Survev		45700				
			$45,700				$45,700
	Erosion & Sed Control	1450			1370		
		$2,280			$1,530		$3,810
	Site Preparation	30520		13910	64690		
		$47,910		$15,010	$72,370		$135,290
	Clay Liner	89150		260	182170		
		$139,960		$280	$203,800		$344,040
	Geosynthetics Purchase by FF		650530				
			$650,530				$650,530
	Secondary Liner	64420	87900	9000	37460		
		$101,130	$87,900	$9,710	$41,910		$240,650
	Primary Liner	57420	271500	9190	32360		
		$90,140	$271,500	$9,920	$36,200		$407,760
	Secondary Drainage	34390		146100	57360		
		$53,990		$157,690	$64,170		$275,850
	Primary Drainage	38490		157220	60310		
		$60,430		$169,690	$67,470		$297,590
	Leak Detection Testing	3600	18600		930		
		$5,650	$18,600		$930		$25,180
	Project Staffing	90830					
		$142,600					$142,600
TOTAL DIRECT FIELD COSTS W/FACTORS		**(FY01 DOLLARS)**					**$3,399,970**

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #7 LINER, FY07
ESTIMATE NO.: C2 -01-05-01-J7
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

ITEM NO.	SUMMARY	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST / UNIT Labor	COST / UNIT S/C	COST / UNIT Mat'l	COST / UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Insurance & Bond											$99,880			$99,880
	Submittals				2626						$100,430		$200		$100,630
	Overhead and Profit											$541,960			$541,960
	Mobilization				70						$1,650	$3,690	$4,600		$9,940
	Off Hours Dust Control											$20,000			$20,000
	Survey											$45,700			$45,700
	Erosion & Sed Control				60						$1,450			$1,370	$2,820
	Site Preparation				1,240						$30,520		$13,910	$64,690	$109,120
	Clay Liner				3,708						$89,150		$260	$182,170	$271,580
	Geosynthetics Purchase by FF											$650,530			$650,530
	Secondary Liner				2,775						$64,420	$87,900	$9,000	$37,460	$198,780
	Primary Liner				2,400						$57,420	$271,500	$9,190	$32,360	$370,470
	Secondary Drainage				1,400						$34,390		$146,100	$57,360	$237,850
	Primary Drainage				1,550						$38,490		$157,220	$60,310	$256,020
	Leak Detection Testing				150						3,600	18,600		930	$23,130
	Project Staffing				2,783						$90,830				$90,830
	Subtotal Direct Costs	1	LOT		18763						512,350	1,739,760	340,480	436,650	$3,029,240

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #7 LINER, FY07
ESTIMATE NO.: C2 -01-05-01-J7
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Insurance & Bond							COST							
	Performance bond 1.3%							THRU							
	Insurance 1.5%							OH & P							
	Sub-total 2.8%							3251760				$91,050			$91,050
	Submittals														
D	Plans	16	EA	50	800	50.62					$40,500				$40,500
D	Technical submittals	100	EA	5	500	50.62					$25,310				$25,310
D	Site access & GET traing, cnstrct work force	25	EA	18	450	23.64					$10,640				$10,640
D	Site access & GET traing, PM, CM etc	7	EA	18	126	32.63					$4,110				$4,110
D	Site access & GET traing, surveyers & othe	4	EA	18	72	50.00					$3,600				$3,600
mD	CERCLA/RAD II training, constrct work forc	10	EA	25	250	23.64					$5,870				$5,870
mD	CERCLA/RAD II traing, PM, CM etc	4	EA	25	100	32.63					$2,500				$2,500
mD	CERCLA/RAD II traing, surveyers & others	4	EA	25	100	46.67					$2,500				$2,500
D	Health Physics				228	23.64					$5,400		$200		$5,600
	Sub-total				2626						$100,430		$200		$100,630
	Overhead and Profit			20%								$541,960			$541,960
D															
D															
D															
D															
D															
D															

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #7 LINER, FY07
ESTIMATE NO.: C2 -01-05-01-J7
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

	Mobilization	QTY	UNIT	MAN-HOURS			COST/UNIT				LABOR	S/C	MAT'L	EQUIP	TOTAL
				Unit	Total	Rate	Labor	S/C	Mat'l	Equip					
	S/C Office Trailer 2 reqd	7	MO					550				$2,450			$2,450
	Support trailer 1 reqd	7	MO					350				$780			$780
	Trailer rental & portolets spread 1/3 each														
	liner, placement, cap														
D															
D						23.64									
D						23.64									
D															
D															
D															
	Portable toilets 2 ea	7	MTH					85				$380			$380
	Potable water, Allow 5jug/mth, $8/jug	7	MTH					12	40			$80	$300		$380
D													$4,300		$4,300
D	Mobilize contractor equipment	20	EA	3	70	23.64					$1,650				$1,650
	Mobilization				70						$1,650	$3,690	$4,600		$9,940

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #7 LINER, FY07
ESTIMATE NO.: C2 -01-05-01-J7
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

ITEM NO.	Site Preparation		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
D	Construction fence		1000	LF	0.04	40	23.64			$1.05		$950		$1,050		$2,000
D	Haul road	5 days	440	LF												
D	#304 stone		500	TON						13.05				$6,530		$6,530
	Geotex		11000	SF						0.08				$880		$880
	Fill		1000	CY						on site						
D	3 teamsters		5	DAY	10	150	22.86					$3,430				$3,430
D	3 operators		5	DAY	10	150	27.03					$4,050				$4,050
D	2 laborers		5	DAY	10	100	22.65					$2,260				$2,260
	Truck, Volvo A30, 2 reqd	5 day -	0.23	MTH							7905				$3,650	$3,650
	Sheepsfoot roller, Cat 824	5 day -	0.23	MTH							13390				$3,090	$3,090
	Loader ,Cat 966	5 day -	0.23	MTH							6820				$1,570	$1,570
	Dozer, D6	5 day -	0.23	MTH							7040				$1,620	$1,620
	Truck, Volvo A30, 2 reqd @ 85%			HR	85						27.12				$2,310	$2,310
	Sheepsfoot roller, Cat 824 @ 85%			HR	43						41.55				$1,770	$1,770
	Loader ,Cat 966 @ 85%			HR	43						24.90				$1,060	$1,060
	Dozer, D6 @ 85%			HR	43						21.87				$930	$930
	Removal of topsoil (2000cy) & excavate liner 4 (4000cy)															
D	4 teamsters		7	DAY	10	280	22.86					$6,400				$6,400
D	3 operators		7	DAY	10	210	27.03					$5,680				$5,680
	Truck, Volvo A30, 4 reqd	7 day -	0.32	MTH							7905				$10,220	$10,220
	Dozer, D8	7 day -	0.32	MTH							13145				$4,250	$4,250
	Excavator Cat330	7 day -	0.32	MTH							11490				$3,710	$3,710
	Truck, Volvo A30, 4 reqd @ 85%			HR	238						27.12				$6,450	$6,450
	Waterwagon, 1 reqd, @ 85%			HR	60						24.10				$1,430	$1,430
	Dozer, D8 @ 85%			HR	60						39.66				$2,360	$2,360
	Excavator Cat330 @ 85%			HR	60						32.15				$1,910	$1,910
	Site Preparation													$880	$6,070	$6,950

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #7 LINER, FY07
ESTIMATE NO.: C2 -01-05-01-J7
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Site Prep continued														
	Maintain liner #4 subgrade														
D	2 laborers	2	DAY	10	40	22.65					$910				$910
D	1 operator	2	DAY	10	20	27.03					$540				$540
	Dozer, D6 2 day -	0.09	MTH							7040				$650	$650
	Smooth drum roller, Cat 563 2 day -	0.09	MTH							4335				$400	$400
	3"pump w/50' ea suctn/dischr hose 2 day -	0.09	MTH							496				$50	$50
	Dozer, D6 @ 85%		HR	17						21.87				$370	$370
	Smooth drum roller, Cat 563 @ 85%		HR	17						15.48				$260	$260
	3"pump w/50' ea suctn/dischr hose @ 50%		HR	10						0.75				$10	$10
	Gravity inlet structure														
D	1. Riser, 3' ID, 4" thk RC	15	FT	0.8	14	29.03			56	77	$410		$830	$1,350	$2,590
D	2. Cap, 5' ID, 7"-8" thk RC	2	EA	3	7	29.03			918	29	$200		$1,840	$70	$2,110
D	3. Outlet piping, 12"RCP	180	FT	0.184	39	29.03			10.5	0.79	$1,120		$1,880	$170	$3,170
D	4. Excavation	1506	BCY	0.015	26	23.64				0.82	$620			$1,440	$2,060
	5. Backfill														
D	a. Embedment fill	1.0	ICY	0.053	1	23.64			19.5	0.95	$20		$20		$40
D	a. Compacted fill	1458	ICY	0.052	88	23.64				1.00	$2,090			$1,700	$3,790
	North Entrance Road Removal	1000	CY												
D	2 Operators	1.5	DAY	10	30	27.03					$810				$810
D	3 Teamsters	1.5	DAY	10	45	22.86					$1,030				$1,030
	Excavator Cat 330 1.5 day -	0.07	MTH							11490				$930	$930
	Truck, Volvo A30, 3 reqd 1.5 day -	0.07	MTH							7905				$1,640	$1,640
	Dozer, Cat D6 1.5 day -	0.07	MTH							7040				$570	$570
	Excavator Cat 330 at 85%		HR	15						32.15				$480	$480
	Truck, Volvo A30, 3 reqd at 85%		HR	15						27.12				$1,220	$1,220
	Dozer, Cat D6 at 85%		HR	15						21.87				$980	$980
	Site Preparation	1	LOT		1240	$24.61					$30,520		13,910	64,690	$109,120

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #7 LINER, FY07
ESTIMATE NO.: C2 -01-05-01-J7
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

ITEM NO.	Clay Liner	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Borrow area road maintenance														
	Included w/clay liner activity														
D	Traffic Signs @ Borrow & N Ent Road Intersctn	1	LOT	8	8	23.64			260	47	$190		$260	$50	$500
	Install & remove														
	Load Clay fr Borrow Area														
D	6 teamsters	25	DAY	10	1500	22.86					$34,290				$34,290
D	1 operator	25	DAY	10	250	27.03					$6,760				$6,760
	Truck, Volvo A30, 6 reqd 25 day =	1.15	MTH							7905				$54,730	$54,730
	Waterwagon incl w/borrow area														
	Excavator Cat330 25 day =	1.15	MTH							11490				$13,260	$13,260
	Truck, Volvo A30, 6 reqd @ 85%		HR	1275						27.12				$34,580	$34,580
	Excavator Cat330 @ 85%	33000 CY	HR	213						32.15				$6,830	$6,830
	Place Clay 33000 CY														
D	3 operators	25	DAY	10	750	27.03					$20,270				$20,270
D	4 laborers	25	DAY	10	1000	22.65					$22,650				$22,650
	Soil stabilizer, Cat SS250 25 day =		MTH							12095					
	Dozer, D8 25 day =	1.15	MTH							13145				$15,170	$15,170
	Sheepsfoot roller Cat 825 25 day =	1.15	MTH							13390				$15,450	$15,450
	Smooth drum roller, Cat 563 25 day =		MTH							4335					
	Waterwagon, 1 reqd, @ 85%		HR							24.10					
	Soil stabilizer Cat SS250 @ 85%		HR	213						34.00				$7,230	$7,230
	Dozer, D8 @ 85%		HR	213						39.66				$8,430	$8,430
	Sheepsfoot roller Cat 825 @85%		HR	213						41.55				$8,830	$8,830
	Smooth drum roller, Cat 563 @ 50%		HR	125						15.48				$1,940	$1,940

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #7 LINER, FY07
ESTIMATE NO.: C2 -01-05-01-J7
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

ITEM NO.	Clay Liner cont'd		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Remove excess clay															
D	2 teamsters		5	DAY	10	100	22.86					$2,290				$2,290
D	2 operator		5	DAY	10	100	27.03					$2,700				$2,700
	Dozer, D8	5 day -	0.23	MTH							13145				$3,030	$3,030
	Excavator Cat330	5 day -	0.23	MTH							11490				$2,650	$2,650
	Smooth drum roller, Cat 563	5 day -	0.23	MTH							4335				$1,000	$1,000
	Truck, Volvo A30, 2 reqd	5 day -	0.23	MTH							7905				$3,650	$3,650
	Dozer, D8 @	85%		HR	43						39.66				$1,690	$1,690
	Excavator Cat330 @	43%		HR	21						32.15				$680	$680
	Smooth drum roller, Cat 563 @	85%		HR	43						15.48				$660	$660
	Truck, Volvo A30, 2 reqd @	85%		HR	43						27.12				$2,310	$2,310
	Clay Liner					3708						89,150		260	182,170	$271,580

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #7 LINER, FY07
ESTIMATE NO.: C2 -01-05-01-J7
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Off Hours Dust Control Allow $40,000 per year split between cell cap & cell liner	0.5	LOT					40,000				$20,000			$20,000
D	Survey 6.7 mth							68000				$45,700			$45,700
	Subtotal Direct Cost	1	LOT									65,700			$65,700

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #7 LINER, FY07
ESTIMATE NO.: C2 -01-05-01-J7
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Erosion & Sed Control														
	Surface water mgmt & erosion control (SWM&EC)														
	Install SWM&EC														
D	1 operator	2	DAY	10	20	27.03					$540				$540
D	2 laborer	2	DAY	10	40	22.65					$910				$910
	Dozer, D6 5 day -	0.09	MTH							7040				$650	$650
	Smooth drum roller, Cat 563 5 day -	0.09	MTH							4335				$400	$400
	Dozer, D6 @85%		HR	9						21.87				$190	$190
	Smooth drum roller, Cat 563 @85%		HR	9						15.48				$130	$130
	Erosion & Sed Control	1	LOT		60						1,450			1,370	$2,820

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #7 LINER, FY07
ESTIMATE NO.: C2 -01-05-01-J7
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Geosynthetics Purchase by FF														
	Geomembrane, 80 mil textured (GML)	770000	SF					0.30				$231,000			$231,000
	Geomembrane, 80 mil smooth (GML)	4000	SF					0.60				$2,400			$2,400
	Geomembrane, 30 mil smooth (GML)	56000	SF					0.15				$8,400			$8,400
	GCL	770000	SF					0.40				$308,000			$308,000
	Geotextile cushion 10 oz	790000	SF					0.08				$63,200			$63,200
	Geotextile cushion 16 oz	74500	SF					0.12				$8,940			$8,940
	Geotextile filter 7 oz	400000	SF					0.06				$24,000			$24,000
	Welding rod	120	BOX					24.00				$2,880			$2,880
	Bentonite 1 bag per 2250sf GCL	342	BAG					5.00				$1,710			$1,710
	Sub-total											$650,530			$650,530

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #7 LINER, FY07
ESTIMATE NO.: C2 -01-05-01-J7
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

ITEM NO.	Secondary Liner	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Penetration Boxes														
	3 secondary	3	LOT						1619				$4,860		$4,860
D	2 pipefitters	12	DAY	10	240	29.62					$7,110				$7,110
D	2 laborers	12	DAY	10	240	22.65					$5,440				$5,440
D	1 operator	* 12	DAY	10	120	27.03					$3,240				$3,240
	Compactor, Wacker RS800V 2 req 12 day =	0.55	MTH							985				$1,090	$1,090
	Excavator Cat330 13 day =	0.55	MTH							11490				$6,360	$6,360
	Compactor, plate 85%		HR	102						1.80				$370	$370
	Excavator Cat330 @ 85%		HR	102						32.15				$3,280	$3,280
	Pipe material for penetration boxes														
	6" SDR-11 HDPE: need 180lf, purch in 40ft lengths	200							2.87				$570		$570
	10" SDR-11 HDPE: need 180lf, purch in 40ft lengths	200							7.69				$1,540		$1,540
	6" SDR-11 HDPE perf: need 620lf, purch in 40ft lengths	640							3.17				$2,030		$2,030
	Receive & store geosynthetics, 15 days over 2 mths (cost distributed 50% secondary & 50% primary)														
	Cat TH83 forklift	2	MTH							3765				$3,770	$3,770
D	1 operator	15	DAYS	10	75	27.03					$1,010				$1,010
D	2 laborers	15	DAYS	10	150	22.65					$1,700				$1,700
	Cat TH83 forklift oper cost @ 85%	63.75	HR							12.45				$400	$400
	Deploy GCL, GML, & geotextile	15	DAY												
D	2.5 operator	15	DAYS	10	375	27.03					$10,140				$10,140
D	10 laborers	15	DAYS	10	1500	22.65					$33,970				$33,970
	Cat TH83 forklift	0.7	MTH							3765				$2,610	$2,610
	Positrac (priced as Cat 246)	0.7	MTH							2165				$1,500	$1,500
	Cat 563 smooth drum roller	0.7	MTH							4335				$3,000	$3,000
	Cat TH83 forklift @ 85%		HR	319						12.45				$3,970	$3,970
	Positrac (priced as Cat 246) @ 85%		HR	319						7.25				$2,310	$2,310
	Cat 563 smooth drum roller @ 85%		HR	319						15.48				$4,930	$4,930

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #7 LINER, FY07
ESTIMATE NO.: C2 -01-05-01-J7
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

ITEM NO.	Secondary Liner cont'd	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Install secondary liner by S/C														
D	GCL	325000	SF					0.07				$22,800			$22,800
D	GML	325000	SF					0.15				$48,800			$48,800
D	Geotextile cushion	325000	SF					0.05				$16,300			$16,300
	Trenching & liner terminations														
	shared 50% by secondary & primary														
D	1 operator	5	DAYS	10	25	27.03					$680				$680
D	2 laborers	5	DAYS	10	50	22.65					$1,130				$1,130
	Excavator Cat330 5 day -	0.23	MTH							11490				$2,650	$2,650
	Compactor, Wacker RS800V 2 req 5 day -	0.23	MTH							2165				$500	$500
	Excavator Cat 330 @ 85%		HR	21						32.15				$680	$680
	Compactor @ 85%		HR	21						1.80				$40	$40
	Secondary Liner				2775						64,420	87,900	9,000	37,460	$198,780

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #7 LINER, FY07
ESTIMATE NO.: C2 -01-05-01-J7
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

ITEM NO.	Primary Liner		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Penetration Boxes															
	2 primary		2	LOT						1619				$3,240		$3,240
D	2 pipefitters		6	DAY	10	120	29.62					$3,550				$3,550
D	2 laborers		6	DAY	10	120	22.65					$2,720				$2,720
D	1 operator		6	DAY	10	60	27.03					$1,620				$1,620
	Compactor, Wacker RS800V 2 req	6 day -	0.28	MTH							985				$550	$550
	Excavator Cat330	6 day -	0.28	MTH							11490				$3,180	$3,180
	Compactor, plate	85%		HR	51						1.80				$180	$180
	Excavator Cat330 @	85%		HR	51						32.15				$1,640	$1,640
	Deploy GCL, GML, & geotextile		15	DAY												
D	2.5 operator		15	DAYS	10	375	27.03					$10,140				$10,140
D	10 laborers		15	DAYS	10	1500	22.65					$33,970				$33,970
	Cat TH83 forklift		0.7	MTH							3765				$2,610	$2,610
	Positrac (priced as Cat 246)		0.7	MTH							2165				$1,500	$1,500
	Cat 563 smooth drum roller		0.7	MTH							4335				$3,000	$3,000
	Cat TH83 forklift @	85%		HR	319						12.45				$3,970	$3,970
	Positrac (priced as Cat 246) @	85%		HR	319						7.25				$2,310	$2,310
	Cat 563 smooth drum roller @	85%		HR	319						15.48				$4,930	$4,930
	Install secondary liner by S/C															
D	GCL		325000	SF					0.07				$168,800			$168,800
D	GML		325000	SF					0.15				$48,800			$48,800
D	Geotextile cushion		325000	SF					0.05				$16,300			$16,300
	Trenching & liner terminations															
	shared 50% by secondary & primary												$16,300			$16,300
D	1 operator		5	DAYS	10	25	27.03					$680				$680
D	2 laborers		5	DAYS	10	50	22.65					$1,130				$1,130
	Excavator Cat330	5 day -	0.23	MTH							11490				$2,650	$2,650
	Compactor, Wacker RS800V 2 req	5 day -	0.23	MTH							2165				$500	$500
	Excavator Cat 330 forklift @	85%		HR	21						32.15				$680	$680
	Compactor @	85%		HR	21						1.80				$40	$40

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #7 LINER, FY07
ESTIMATE NO.: C2 -01-05-01-J7
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

ITEM NO.	Primary cont'd		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Place geotextile 375000 + 50000 =		425000	SF												
D	2 laborers		5	DAY	10	100	22.65					$2,260				$2,260
D	1 operator		5	DAY	10	50	27.03					$1,350				$1,350
	Compactor, Wacker RS800V 2 req	5 day =	0.23	MTH							985				$450	$450
	Excavator Cat330	5 day =	0.23	MTH							11490				$2,650	$2,650
	Compactor, plate	85%		HR	43						1.80				$150	$150
	Excavator Cat330 @	85%		HR	43						32.15				$1,370	$1,370
D	Geotextile		425000	SF					0.05				$21,300			$21,300
	Pipe material for penetration boxes															
	6" SDR-11 HDPE: need 350lf, purch in 40ft lengths		360							2.87				$1,030		$1,030
	10" SDR-11 HDPE: need 350lf, purch in 40ft lengths		360							7.69				$2,770		$2,770
	6" SDR-11 HDPE perf: need 650lf, purch in 40ft lengths		680							3.17				$2,150		$2,150
	Primary Liner		1	LOT		2400	$23.93					57,420	21,500	9,190	32,360	$370,470

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #7 LINER, FY07
ESTIMATE NO.: C2 -01-05-01-J7
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

ITEM NO.	Secondary Drainage		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Secondary Drainage															
D	Receive & stockpile stone, # 78		11,500	TON						12				$138,000		$138,000
D	1 operator		20	DAYS	10	200	24.60					$4,920				$4,920
D	1 laborer		20	DAYS	10	200	23.75					$4,750				$4,750
	Dozer Cat D8		0.92	MTH							13145				$12,130	$12,130
	Dozer Cat D8 @	85%		HR	170						39.66				$6,740	$6,740
	#57 stone		675	TON						12				$8,100		$8,100
	Place stone															
D	3 operator		10	DAYS	10	300	27.03					$8,110				$8,110
D	3 laborers		10	DAYS	10	300	22.65					$6,790				$6,790
D	3 teamsters		10	DAYS	10	300	22.86					$6,860				$6,860
D	2 pipefitters		5	DAYS	10	100	29.62					$2,960				$2,960
	Dozer Cat D6	2 reqd	0.46	MTH							7040				$6,500	$6,500
	Loader Cat 966		0.46	MTH							6820				$3,150	$3,150
	Cat 563 smooth drum roller		0.46	MTH							4335				$2,000	$2,000
	Dozer Cat D6 @	85%		HR	85						21.87				$3,720	$3,720
	Loader Cat 966 @	85%		HR	85						24.90				$2,120	$2,120
	Cat 563 smooth drum roller @	85%		HR	85						15.48				$1,320	$1,320
	Truck, Volvo A30, 3 reqd		0.46	MTH							7905				$12,760	$12,760
	Truck, Volvo A30 @ 85%	85%		HR	85						27.12				$6,920	$6,920
	Secondary Drainage		1	LOT		1400	$24.56					34,390		146,100	57,360	$237,850

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #7 LINER, FY07
ESTIMATE NO.: C2 -01-05-01-J7
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

ITEM NO.	Primary Drainage		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Primary Drainage															
D	Receive & stockpile stone, # 78		11,500	TON						12				$138,000		$138,000
D	1 operator		20	DAYS	10	200	24.60					$4,920				$4,920
D	1 laborer		20	DAYS	10	200	23.75					$4,750				$4,750
	Dozer Cat D8		0.92	MTH							13145				$12,130	$12,130
	Dozer Cat D8 @	85%		HR	170						39.66				$6,740	$6,740
	#57 stone		1602	TON						12				$19,220		$19,220
	Place stone															
D	3 operator		10	DAYS	10	300	27.03					$8,110				$8,110
D	3 laborers		10	DAYS	10	300	22.65					$6,790				$6,790
D	3 teamsters		10	DAYS	10	300	22.86					$6,860				$6,860
D	2 pipefitters		10	DAYS	10	200	29.62					$5,920				$5,920
	Dozer Cat D6	2 reqd	0.46	MTH							7040				$6,500	$6,500
	Loader Cat 966		0.46	MTH							6820				$3,150	$3,150
	Cat 563 smooth drum roller		0.46	MTH							4335				$2,000	$2,000
	Dozer Cat D6 @	85%		HR	85						21.87				$3,720	$3,720
	Loader Cat 966 @	85%		HR	85						24.90				$2,120	$2,120
	Cat 563 smooth drum roller @	85%		HR	85						15.48				$1,320	$1,320
	Truck, Volvo A30, 3 reqd		0.46	MTH							7905				$12,760	$12,760
	Truck, Volvo A30 @ 85%	85%		HR	85						27.12				$6,920	$6,920
	Dust control															
D	1/2 teamster		10	DAYS	10	50	22.86					$1,140				$1,140
	Waterwagon Cat 613		0.46	MTH							6400				$2,950	$2,950
	Waterwagon Cat 613 @	50%		HR	50						24.10					
	Primary Drainage					1550	$24.83					38,490		157,220	60,310	$256,020

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #7 LINER, FY07
ESTIMATE NO.: C2 -01-05-01-J7
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

ITEM NO.	Leak Detection Testing	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Leak Detection Testing	1	LOT					18600				$18,600			$18,600
	Water Management														
D	1 operator	5	DAYS	10	50	24.60					$1,230				$1,230
D	2 laborers	5	DAYS	20	100	23.75					$2,370				$2,370
	Positrac (priced as Cat 246) 5 days	0.23	MTH							2165				$500	$500
	2"pump w/50' ea suctn/dischr hose 5 days=	0.23	MTH							441				$100	$100
	Positrac (priced as Cat 246) @ 85%		HR	43						7.25				$310	$310
	Pump @ 50% 50%		HR	25						0.75				$20	$20
	Leak Detection Testing	1	LOT		150	$24.00					3,600	18,600		930	$23,130

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #7 LINER, FY07
ESTIMATE NO.: C2 -01-05-01-J7
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

ITEM NO.	Dust Control / Moisture Conditioning	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
D	Teamster 6.7 mth	109	DAYS	10	1085	22.86					$24,800				$24,800
	Water wagon Cat 613	5.0	MTH							6400				$32,050	$32,050
	Water wagon Cat 613 active 85%		HR	922						24.10				$22,230	$22,230
	Note: 75% for liner & 25% for borrow area for 6.7 months														
	Dust Control / Moisture Conditioning	1	LOT		1085	$22.86					24,800			54,280	$79,080

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #7 LINER, FY07
ESTIMATE NO.: C2 -01-05-01-J7
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

ITEM NO.			QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Project Staffing		Shared percent													
D	Project Manager	6.7 mth	20%	hr	1	147	54.42					$7,990				$7,990
D	General Superintendent	6.7 mth	20%	hr	1	147	37.85					$5,560				$5,560
D	Superintendent	6.7 mth	25%	hr	2	655	32.99					$21,620				$21,620
D	Project Engineer	6.7 mth	40%	hr	1	524	33.19					$17,400				$17,400
D	Quality Engineer	6.7 mth	25%	hr	2	655	28.05					$18,380				$18,380
D	Safety Engineer	6.7 mth	25%	hr	2	655	30.34					$19,880				$19,880
D	Office Administration	in overhead					19.31									
D	Contract Administration/ Schedul	in overhead					25.58									
D	Clerical	in overhead					14.58									
	TOTAL					2,783	32.63					$90,830				$90,830

APPENDIX "C"

HEALTH PHYSICS

PROJECT: Baseline OSDF CELL #7 LINER FY07
ESTIMATE NO. C2 -01-05-01-J7
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

PPE"s - PERSONAL PROTECTIVE EQUIPMENT

DESCRIPTION	UNIT	UNIT COST	* NO. OF CHANGE OUTS PER WORKER PER DAY Man Days (TOTAL HOURS worked in PPE's Div. by WORK HOURS / DAY)				
PPE LEVEL C / C+ / B : F/HF MASK w/RESP.&CART.			*	MAN DAYS	MAT'L.$'s	PPE LEVEL	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	(DOUBLE PPE)
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	C / C+	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	C / C+	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	C / C+	
APR CARTRIDGES - DISPOSABLE	PR	$6.98	3	0	$0	C / C+	
SUB-TOTAL		$17.42	3		$0		
				$/MD =	$0.00		
PPE LEVEL mC : FULL DRESS w/ FACE SHIELD				MAN DAYS	MAT'L.$'s	PPE LEVEL	
LT.WT. DISPOSABLE COVERALLS W/HOOD & BOOTIE	PR	$4.46	3	0	$0	mC	
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	mC	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	mC	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	mC	
SUB-TOTAL		$5.98	3		$0		
				$/MD =	$0.00		
SUBCONTRACTOR REQUIRED PURCHASES			QTY. PER WKR.	NO. OF WORKERS	MAT'L.$'s	PPE LEVEL	
RUBBER BOOT COVERS-(1)PR.PER WORKER	PR	$12.70	2	8	$203	D/C/B	
APR w/HALF FACE MASK - (1) PER WORKER	EA	$22.30	6	0	$0	C	
APR w/FULL FACE MASK - (1) PER WORKER	EA	$174.00	6	0	$0	C	
SCBA	EA	$1,894.00	2	0	$0	B	
COOL VESTS	EA	$137.50	6	0	$0	C/B	
THERMO STRIPS	EA	$50.00	6	0	$0	C/B	
SUB-TOTAL					$200		

	MAT'L.$'s
TOTAL PPE's =	$200

(FORWARD TO PAGE 2 OF 2)

OTHER PPE's SUCH AS HARD HAT, SAFETY GLASSES/GOGGLES, STEEL TOED SAFETY SHOES, HEARING PROTECTION, ARE CONSIDERED THE SUBCONTRACTORS RESPONSIBILITY AND ARE COVERED IN HIS OVERHEAD EXPENSE.
COSTS OF FD FERNALD SUPPLIED PPE's, SUCH AS COTTON COVERALLS, EXCHANGE OF RUBBER BOOT COVERS AND RESPIRATORS FOR CHANGEOUTS AND CLEANING OF SAME IS INCURRED BY FD FERNALD AND COSTS ARE NOT INCLUDED AS PART OF PROJECT COSTS AT THIS TIME.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: Baseline OSDF CELL #7 LINER, FY07
ESTIMATE NO. C2 -01-05-01-J7
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

--MEDICAL MONITORING --

MEDICAL - PHYSICAL and IN-VIVO MONITORING - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION PHYSICAL (3hrs), IN-VIVO (1hr)	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $
BASELINE PHYSICALS	1	4	0	0	$27.31	$0
ANNUAL PHYSICALS	0	4	0	0	$27.31	$0
EXIT (TERMINATION) PHYSICALS (IN-VIVO)	1	1	0	0	$27.31	$0
SUB-TOTAL						$0

RADIATION IN-VITRO SURVEILLANCE - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $
BI-MONTHLY BIOASSAY	6	1	0	0	$27.31	$0
SUB-TOTAL						$0

RANDOM DRUG TESTING

	TESTS	HRS	TOTAL HOURS	AVG. RATE	LABOR $'s
	14	2	28	$27.31	$800

NO. OF WKRS. TESTED	TESTING DAYS PER YR.	AVG. NO. OF TESTS PER DAY	CHANCE/ DAY FOR TEST	NO. OF WKRS. FOR THIS ESTIMATE	CHANCES /DAY FOR TEST FOR PROJECT	CONSTR WORKING DAYS
2340	226	10	0.0042735	25	0.1068	127

		LABOR $'s THRU SAFETY	LABOR $'s
WORK DELAYS CAUSED BY MONITORING	0.5%	$411,920	$2,300
			LABOR $'s
WORK DELAYS CAUSED BY RAD CHECKING	0.5%	$411,920	$2,300

	TOTAL LABOR	TOTAL MAT'L.	GRAND TOTAL
TOTAL HEALTH PHYSICS	$5,000	$200	$5,200

(FORWARD TO ESTIMATE SUMMARY SHEET)

APPENDIX "D"

ACTIVITY DURATIONS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #7 LINER, FY07
ESTIMATE NO. C2 -01-05-01-J7
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION	Days per Schedule	
						Each Year		
Monitoring Well	04-May-01	16-Aug-06	07-Sep-06	29-Sep-06	1.4	MONTHS	32	14.6%
Liner		02-Apr-07	12-Jul-07	22-Oct-07	6.7	MONTHS	145	67.2%
Video & Demob		06-Nov-07	03-Dec-07	31-Dec-07	1.8	MONTHS	35	18.2%
TOTAL					9.9	MONTHS		
					10.0		212	

	DATE of EST. to MID-POINT ACTIVITY DURATION	
a.	64.2	MONTHS
b.	1297	MONTHS

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION
OPERATIONS					0	MONTHS

DATE of EST. to MID-POINT ACTIVITY DURATION	
0	MONTHS

ACTIVITY DURATION IS USED IN DETERMINING NUMBER of WORKERS for CERCLA/SAT TRAINING HOURS and HEALTH PHYSICS COSTS.

APPENDIX "E"

TRAINING

PROJECT:	Baseline OSDF CELL #7 LINER, FY07	DATE:	17-May-01
ESTIMATE #:	C2 -01-05-01-J7	ESTIMATOR:	RIS
CLIENT:	DOE	LOCATION:	FERNALD
WBS #:	1.1.C.D	TASK #:	CCPLJ

FLUOR FERNALD

Site Access Training Requirements (RM-0055 Rev. 1 Effective: 09/30/99)

Training Requirements	Non-Hazardous	Occasional Site Worker	General Site Worker		
Access Area	Administrative Support Area	Controlled Area	Contamination Compound	Frequency	
	8 Hour	24 Hour Hazwoper	40 Hour Hazwoper		
General Employee Training	X	X	X	Annually	
Site Worker Training		X	X	One Time	
Rad. Worker I		X		Biennially	
Rad. Worker II			X	Biennially	
Respirator Training *			X	Annually	
Respirator Fit Testing *			X	Annually	
Supervised Field Experience	0 HR	8 HR	24 HR	One time →	*On the Job*
Site Worker Refresher		X	X	Annually →	4 Hour
Rad. Worker I Retraining		X		Every 2 years →	4 Hour
Rad. Worker II Retraining			X	Every 2 years →	8 Hour

Additional Training	HRS	No. of Workers	Total Hours
Job Specific Training =	2	7	14
Fire Watch Training =	1	2	2
Lead Worker Training =	4	7	28
Lock out / Tag out Training =	8	3	24
Rigging Training =	24	4	96
Scaffold Training =	16	4	64

DURATION	10 Month(s)		
Average Rate $	27.31		
Number of General Site Worker(s)	14	General Site Worker Training Cost	$14,877
Number of Occasional Site Worker(s)	1	Occasional Site Training Cost	$655
Number of Non-Hazardous Worker(s)	1	Non-Hazardous Training Cost	$218
		Additional Training Cost	$6,226
Total Training Hours	805	Total Training Cost =	$21,977

* = All employees classified as General Site Worker must initially take respirator training. The annual requirement for the repeat of training and the fit test frequency requirements are only needed by those employees that are required to wear a respirator.

ESTIMATE SUMMARY SHEET

FLUOR FERNALD

PROJECT:	OSDF BASELINE CELL 7 LINER CCPLJ FY08	DATE:	17-May-01
ESTIMATE #:	C2-01-05-01-J8	ESTIMATOR:	RIS
CLIENT:	DOE	LOCATION:	FERNALD
WBS #:	1.1.C	TASK NO.:	CCPLJ

ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	EQUIP. $	TOTAL $
Insurance & Bond for this FY is included in FY 04							
Insurance/Bond							
Submittals	133		$6,530				$6,530
Overhead and Profit				$52,250			$52,250
Mobilization				$3,590	$100		$3,690
Video				$10,000			$10,000
Misc Activities	1,380		$32,890	$2,500	$29,250	$65,860	$130,500
Dust Control / Moisture Conditioning	294		$6,720			$14,700	$21,420
Demobilization	187		$4,420				$4,420
Survey				$12,380			$12,380
	754		$24,610				$24,610
DIRECT FIELD COSTS TOTAL	**2,749**	**$27.35**	**$75,170**	**$80,720**	**$29,350**	**$80,560**	**$265,800**
SUPERVISION - CONTRACTOR							
SMALL TOOLS & CONSUMABLES	-	-	-		$1,000		$1,000
MISC. EQUIP. RENTAL	-	-	-			$3,900	$3,900
TEMPORARY FACILITIES incl w/Mobilization							
TEMPORARY UTILITY HOOK-UP incl w/Mobilzation							
JOB CLEAN-UP incl w/Job Close-out							
PER DIEM / SUBSISTANCE	-	-	-				
HEALTH PHYSICS S/C incl w/Submittals							
CERCLA - TRAINING incl w/Submittals							
GET/SITE ACCESS & JOB SPECIFIC TRAINING w/su							
PAYROLL BURDENS & BENEFITS	-	-	$42,800				$42,800
OVERHEAD & PROFIT	-	-	-				
BOND	-	-	-				
SALES TAX	-	-	-		$1,800	$5,100	$6,900
INDIRECT FIELD COSTS TOTAL			**$42,800**		**$2,800**	**$9,000**	**$54,600**
DIRECT & INDIRECT FIELD COSTS TOTAL	**2,749**	**$42.92**	**$117,970**	**$80,720**	**$32,150**	**$89,560**	**$320,400**
TARGET ESTIMATE			**(FY 01 DOLLARS)**				**$320,400**

ESTIMATE PERFORMED BY ESTIMATING SERVICES

ESTIMATE SUMMARY SHEET

PROJECT: OSDF BASELINE CELL 7 LINER CCPLJ FY(

DATE: 17-May-01

ESTIMATE NO. C2-01-05-01-J8

FACTORS

ESTIMATOR: RIS

CLIENT: DOE

LOCATION: FERNALD

WBS NO.: 1.1.C

TASK NO.: CCPLJ

FIXED PRICE $	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
DFC DOLLARS	$75,170	$80,720	$29,350	$80,560		$265,800
IFC COST FACTOR	1.5694	--	1.0341	1.0484	--	
BOND + OVERHEAD & PROFIT COST FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	
SALES TAX	-	-	1.0600	1.0600	1.0600	
DIRECT FIELD COST FACTOR =	**1.5694**	**1.0000**	**1.0961**	**1.1113**	**1.0600**	
BASE ESTIMATE $'S	$117,970	$80,720	$32,171	$89,528		$320,389
BASE FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	
TARGET ESTIMATE FACTOR	**1.5694**	**1.0000**	**1.0961**	**1.1113**	**1.0600**	
FPS TARGET ESTIMATE (FY00 $)	$117,970	$80,720	$32,171	$89,528		$320,389

NOTE:

IF THERE ARE NO DFC EQUIP. $, ENTER THE IFC EQUIP. $'S INTO THE DIRECT FIELD COST TOTAL AND DELETE IFC FACTOR IN G65.

ESTIMATE SUMMARY SHEET

PROJECT: OSDF BASELINE CELL 7 LINER CCPLJ FYC
DATE: 17-May-01
ESTIMATE NO. C2-01-05-01-J8
ESTIMATOR: RIS
CLIENT: DOE
LOCATION: FERNALD
WBS NO.: 1.1.C
TASK NO.: CCPLJ

DIRECT FIELD COST W/FACTORS

PAY ITEM NO.	DESCRIPTION	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
		(ASSIGN OR PRORATE PPE MAT'L.$'S)-->>					
	Insurance & Bond for this FY is includ						
	Insurance/Bond						
	Submittals	6530 $10,250					$10,250
	Overhead and Profit		52250 $52,250				$52,250
	Mobilization		3590 $3,590	100 $110			$3,700
	Video		10000 $10,000				$10,000
	Misc Activities	32890 $51,620	2500 $2,500	29250 $32,060	65860 $73,190		$159,370
	Dust Control / Moisture Conditioning	6720 $10,550			14700 $16,340		$26,890
	Demobilization	4420 $6,940					$6,940
	Survey		12380 $12,380				$12,380
	Project Staffing	24610 $38,620					$38,620
TOTAL DIRECT FIELD COSTS W/FACTORS		(FY01 DOLLARS)					$320,400

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 7 LINER CCPLJ FY08
ESTIMATE NO.: C2-01-05-01-J8
CLIENT: DOE
WBS NO.: 1.1.C

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

ITEM NO.	SUMMARY	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST / UNIT Labor	COST / UNIT S/C	COST / UNIT Mat'l	COST / UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Insurance & Bond $8,780														
	Submittals				133						$6,530				$6,530
	Overhead and Profit											$52,250			$52,250
	Mobilization											$3,590	$100		$3,690
	Video											$10,000			$10,000
	Misc Activities				1380						$32,890	$2,500	$29,250	$65,860	$130,500
	Dust Control / Moisture Conditioning				294						$6,720			$14,700	$21,420
	Demobilization				187						$4,420				$4,420
	Survey											$12,380			$12,380
					754						$24,610				$24,610
	Subtotal Direct Cost	1	LOT		2749	$27.35					75,170	80,720	29,350	80,560	$265,800

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 7 LINER CCPLJ FY08
ESTIMATE NO.: C2-01-05-01-J8
CLIENT: DOE
WBS NO.: 1.1.C

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Insurance & Bond							COST							
	Performance bond 1.3%							THRU							
	Insurance 1.5%							OH & P							
	Sub-total 2.8%							313500				$8,780			$8,780
	Submittals														
D	Close-out documents	25		5	125	50.62					$6,330				$6,330
D	Health Physics				8	23.64					$200				$200
	Sub-total				133						$6,530				$6,530
	Overhead and Profit			20%								$52,250			$52,250

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 7 LINER CCPLJ FY08
ESTIMATE NO.: C2-01-05-01-J8
CLIENT: DOE
WBS NO.: 1.1.C

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

Mobilization		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
S/C Office Trailer	2 reqd	1.8	MO					550				$1,990			$1,990
Heat stress / support trailers	2 reqd	1.8	MO					350				$1,270			$1,270
Portable toilets	2 ea	1.8	MTH					85				$310			$310
Potable water, Allow 5jug/mth, $8/jug		1.8	MTH					12	40			$20	$100		$120
Mobilization												$3,590	$100		$3,690

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 7 LINER CCPLJ FY08
ESTIMATE NO.: C2-01-05-01-J8
CLIENT: DOE
WBS NO.: 1.1.C

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

ITEM NO.	Video	QTY	UNIT	MAN-HOURS			COST/UNIT				LABOR	S/C	MAT'L	EQUIP	TOTAL
				Unit	Total	Rate	Labor	S/C	Mat'l	Equip					
D	Video	1	LOT					10000				$10,000			$10,000
	Video											$10,000			$10,000

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 7 LINER CCPLJ FY08
ESTIMATE NO.: C2-01-05-01-J8
CLIENT: DOE
WBS NO.: 1.1.C

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

ITEM NO.	Misc Activities		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Wedges															
	Load, haul, place, compact clay															
D	2.5 operator		10	DAYS	10	250	27.03					$6,760				$6,760
D	2 laborers		10	DAYS	10	200	22.65					$4,530				$4,530
D	5 teamsters		10	DAYS	10	500	22.86					$11,430				$11,430
	Dozer, D6	10 day -	0.46	MTH							7040				$3,250	$3,250
	Excavator Cat330	10 day -	0.46	MTH							11490				$5,300	$5,300
	Sheepsfoot roller, Cat 825	10 day -	0.46	MTH							13390				$6,180	$6,180
	Truck, Volvo A30, 4 reqd	10 day -	0.46	MTH							7905				$14,590	$14,590
	Waterwagon, Cat 613	10 day -	0.46	MTH							6400				$2,950	$2,950
	Dozer, D6 @	85%		HR	85						21.87				$1,860	$1,860
	Excavator Cat330 @	85%		HR	85						32.15				$2,730	$2,730
	Sheepsfoot roller, Cat 825 @	85%		HR	85						41.55				$3,530	$3,530
	Truck, Volvo A30, 4 reqd @	85%		HR	85						27.12				$9,220	$9,220
	Waterwagon, Cat 613 @	85%		HR	85						24.10				$2,050	$2,050
	Place sacrificial geomembrane															
D	2 laborer 23000 SF		2	DAYS	10	40	22.65					$910				$910
	Access Ramp															
D	2 operator		3	DAYS	10	60	27.03					$1,620				$1,620
D	1 laborers		3	DAYS	10	30	22.65					$680				$680
D	3 teamsters		3	DAYS	10	90	22.86					$2,060				$2,060
D																
	Dozer, D6	3 day -	0.14	MTH							7040				$970	$970
	Loader Cat 966	3 day -	0.14	MTH							6820				$1,100	$1,100
	Truck, Volvo A30, 3 reqd	3 day -	0.14	MTH							7905				$3,280	$3,280
	Dozer, D6 @	85%		HR	26						21.87				$560	$560
	Loader, Cat 966 @	85%		HR	26						24.90				$630	$630
	Truck, Volvo A30, 3 reqd @	85%		HR	26						27.12				$2,070	$2,070
	Fill for ramp from on-site source, no cost		1100	CY												

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 7 LINER CCPLJ FY08
ESTIMATE NO.: C2-01-05-01-J8
CLIENT: DOE
WBS NO.: 1.1.C

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

ITEM NO.	Misc Activities cont'd		QTY	UNIT	Unit	Total	Rate	COST/UNIT Labor	S/C	Mat'l	Equip			O&M	EQUIP	TOTAL
	Catchment Area															
	Granular layer #57 stone		1500	CY						19.5				$29,250		$29,250
	Geotextile by S/C		50000	SF					0.05				$2,500			$2,500
D	operator		3	DAYS	10	30	27.03					$810				$810
D	4 laborers		3	DAYS	10	120	22.65					$2,720				$2,720
D	2 teamsters		3	DAYS	10	60	22.86					$1,370				$1,370
	Dozer, D6 LGP	3 day =	0.14	MTH							8245				$1,140	$1,140
	Truck, Volvo A30, 2 reqd	3 day =	0.14	MTH							7905				$2,190	$2,190
	Dozer, D6 LGP @	85%		HR	26						24.76				$630	$630
	Truck, Volvo A30, 2 reqd @	85%		HR	30						27.12				$1,630	$1,630
	Misc Activities					1380	$23.83					$32,890	$2,500	$29,250	$65,860	$130,600

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 7 LINER CCPLJ FY08
ESTIMATE NO.: C2-01-05-01-J8
CLIENT: DOE
WBS NO.: 1.1.C

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

ITEM NO.	Dust Control / Moisture Conditioning	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
D	Teamste 1.8 mth	29	DAYS	10	294	22.86					$6,720				$6,720
	Water wagon Cat 613	1.4	MTH							6400				$8,680	$8,680
	Water wagon Cat 613 active 85%		HR	250						24.10				$6,020	$6,020
	Note: 75% for liner & 25% for borrow area for 1.8 months														
	Dust Control / Moisture Conditioning	1	LOT		294	$22.86					$6,720			14,700	$21,420

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 7 LINER CCPLJ FY08
ESTIMATE NO.: C2-01-05-01-J8
CLIENT: DOE
WBS NO.: 1.1.C

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

ITEM NO.	Demobilization	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
D	Demob contractor equipment	25	EA	3	87	23.64					$2,060				$2,060
D	Punchlist - Allowance	1	LOT	100	100	23.64					$2,360				$2,360
	Demobilization	1	LOT		187	$23.64					$4,420				$4,420

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 7 LINER CCPLJ FY08
ESTIMATE NO.: C2-01-05-01-J8
CLIENT: DOE
WBS NO.: 1.1.C

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

ITEM NO.	Survey	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
D	Survey 1.8 mth							68000				$12,380			$12,380
	Survey											$12,380			$12,380

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF BASELINE CELL 7 LINER CCPLJ FY08
ESTIMATE NO.: C2-01-05-01-J8
CLIENT: DOE
WBS NO.: 1.1.C

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

ITEM NO.			QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Project Staffing															
			percent													
D	Project Manager	1.8 mth	20%	hr	1	40	54.42					$2,160				$2,160
D	General Superintendent	1.8 mth	20%	hr	1	40	37.85					$1,510				$1,510
D	Superintendent	1.8 mth	25%	hr	2	178	32.99					$5,860				$5,860
D	Project Engineer	1.8 mth	40%	hr	1	142	33.19					$4,710				$4,710
D	Quality Engineer	1.8 mth	25%	hr	2	178	28.05					$4,980				$4,980
D	Safety Engineer	1.8 mth	25%	hr	2	178	30.34					$5,390				$5,390
D	Office Administration	in overhead					19.31									
D	Contract Administration/ Schedu	in overhead					25.58									
D	Clerical	in overhead					14.58									
	TOTAL					754	32.63					$24,610				$24,610

APPENDIX " A"

PROJECT: OSDF BASELINE CELL 7 LINER CCPLJ FY08
ESTIMATE NC C2-01-05-01-J8
CLIENT: DOE
WBS NO.: 1.1.C

SITE SPECIFIC

EFFICIENCY / MULTIPLIER ANALYSIS

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

PERCENT OF INFLUENCE ON CHART MANHOURS

	40%	50%	60%	70%	80%	90%	100%	105%	110%	% OF NFLUENCE	WT'D VALUE	PROD. RESULT
CRAFT SKILL (NOTE 1)	POOR			FAIR			STD	V.GOOD	EXCELLENT	90.0%	12.0%	0.108
CRAFT AVAIL.(NOTE 1)		POOR		FAIR			STD			100.0%	8.0%	0.08
CLIMATE (NOTE 2)	SEVERE	ICE/SNOW			RAIN		+40 TO +85			80.0%	20.0%	0.16
PLANT ELEVATION		OVER 10,000FT			5,000' TO 10,000 FT		UNDER 5,000 FT			100.0%	5.0%	0.05
WORK SPACE				200 SF	250 SF	300 SF	350 SF			100.0%	10.0%	0.1
WORK WEEK	<— MULTIPLE SHIFTS-					5-10s per Means R010-110				85.0%	15.0%	0.1275
50 HOUR WORK WEEK	////////// ////// MULTIPLE-SHIFT //////	//////////	//////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS				0.0%	0.0%	0
60 HOUR WORK WEEK	////////// //////////	////////// //////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS					0.0%	0.0%	0
SHIFTWORK 2ND SHIFT 3RD SHIFT			 3RD SHIFT		 2ND SHIFT		OR ONE SHIFT ONLY			 100.0% 100.0%	 3.0% 5.0%	 0.03 0.05
PROJECT SIZE					400M MH AND UP	300M TO 400M MH	200M TO 300M MH	200M MH OR LESS		105.0%	4.0%	0.042
PLANT TYPE				REVAMP ONLY	REVAMP & NEW	NEW IN EXIST PLT	GRASS ROOTS			95.0%	8.0%	0.076
AREA/UNION INFLUENCE	STRONG		MILD		SOME		NONE			80.0%	10.0%	0.08
											100.0%	90.4%

NOTES.....
1. TURNOVER HAS BEEN CONSIDERED

2. FOR EXTERIOR WORK ONLY

EFFICIENCY (AS A % OFF CHART MANHOURS) 90.4%

MULTIPLIER - (TO BE APPLIED TO CHART M.H.'S TO OBTAIN SITE M.H.'S) 1.11

APPENDIX "C"

HEALTH PHYSICS

PROJECT: OSDF BASELINE CELL 7 LINER CCPL LFY08
ESTIMATE NO. C2-01-05-01-J8
CLIENT: DOE
WBS NO.: 1.1.C

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

PPE"s - PERSONAL PROTECTIVE EQUIPMENT

DESCRIPTION	UNIT	UNIT COST	* NO. OF CHANGE OUTS PER WORKER PER DAY				
			Man Days (TOTAL HOURS worked in PPE's Div. by WORK HOURS / DAY)				
PPE LEVEL C / C+ / B : F/HF MASK w/RESP.&CART.			*	MAN DAYS	MAT'L.$'s	PPE LEVEL	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	(DOUBLE PPE)
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	C / C+	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	C / C+	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	C / C+	
APR CARTRIDGES - DISPOSABLE	PR	$6.98	3	0	$0	C / C+	
SUB-TOTAL		$17.42	3		$0		
				$/MD =	$0.00		
PPE LEVEL mC : FULL DRESS w/ FACE SHIELD				MAN DAYS	MAT'L.$'s	PPE LEVEL	
LT.WT. DISPOSABLE COVERALLS W/HOOD & BOOTIE	PR	$4.46	3	0	$0	mC	
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	mC	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	mC	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	mC	
SUB-TOTAL		$5.98	3		$0		
				$/MD =	$0.00		
SUBCONTRACTOR REQUIRED PURCHASES			QTY. PER WKR.	NO. OF WORKERS	MAT'L.$'s	PPE LEVEL	
RUBBER BOOT COVERS-(1)PR.PER WORKER	PR	$12.70	2	0	$0	D/C/B	
APR w/HALF FACE MASK - (1) PER WORKER	EA	$22.30	6	0	$0	C	
APR w/FULL FACE MASK - (1) PER WORKER	EA	$174.00	6	0	$0	C	
SCBA	EA	$1,894.00	2	0	$0	B	
COOL VESTS	EA	$137.50	6	0	$0	C/B	
THERMO STRIPS	EA	$50.00	6	0	$0	C/B	
SUB-TOTAL					$0		

	MAT'L.$'s
TOTAL PPE's =	$0

(FORWARD TO PAGE 2 OF 2)

OTHER PPE's SUCH AS HARD HAT, SAFETY GLASSES/GOGGLES, STEEL TOED SAFETY SHOES, HEARING PROTECTION, ARE CONSIDERED THE SUBCONTRACTORS RESPONSIBILITY AND ARE COVERED IN HIS OVERHEAD EXPENSE.
COSTS OF FD FERNALD SUPPLIED PPE's, SUCH AS COTTON COVERALLS, EXCHANGE OF RUBBER BOOT COVERS AND RESPIRATORS FOR CHANGEOUTS AND CLEANING OF SAME IS INCURRED BY FD FERNALD AND COSTS ARE NOT INCLUDED AS PART OF PROJECT COSTS AT THIS TIME.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: OSDF BASELINE CELL 7 LINER CCPLJ FY08
ESTIMATE NO. C2-01-05-01-J8
CLIENT: DOE
WBS NO.: 1.1.C

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

--MEDICAL MONITORING --

MEDICAL - PHYSICAL and IN-VIVO MONITORING - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION PHYSICAL (3hrs), IN-VIVO (1hr)	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $
BASELINE PHYSICALS	1	4	0	0	$27.35	$0
ANNUAL PHYSICALS	0	4	0	0	$27.35	$0
EXIT (TERMINATION) PHYSICALS (IN-VIVO)	1	1	0	0	$27.35	$0
SUB-TOTAL						$0

RADIATION IN-VITRO SURVEILLANCE - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $
BI-MONTHLY BIOASSAY	6	1	0	0	$27.35	$0
SUB-TOTAL						$0

RANDOM DRUG TESTING

	TESTS	HRS	TOTAL HOURS	AVG. RATE	LABOR $'s
	3	2	6	$27.35	$200

NO. OF WKRS. TESTED	TESTING DAYS PER YR.	AVG. NO. OF TESTS PER DAY	CHANCE/ DAY FOR TEST	NO. OF WKRS. FOR THIS ESTIMATE	CHANCES /DAY FOR TEST FOR PROJECT	CONSTR WORKING DAYS
2340	226	10	0.0042735	20	0.0855	35

		LABOR $'s THRU SAFETY	LABOR $'s
WORK DELAYS CAUSED BY MONITORING	0.5%	$68,640	$300
			LABOR $'s
WORK DELAYS CAUSED BY RAD CHECKING	0.5%	$68,640	$300

	TOTAL LABOR	TOTAL MAT'L.	GRAND TOTAL
TOTAL HEALTH PHYSICS	$800	$0	$800

(FORWARD TO ESTIMATE SUMMARY SHEET)

APPENDIX "D"

ACTIVITY DURATIONS

FLUOR FERNALD

PROJECT: OSDF BASELINE CELL 7 LINER CCPLJ FY08
ESTIMATE NO. C2-01-05-01-J8
CLIENT: DOE
WBS NO.: 1.1.C

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLJ

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION	Days per Schedule	
						Each Year		
Monitoring Well	04-May-01	16-Aug-06	07-Sep-06	29-Sep-06	1.4	MONTHS	32	14.6%
Liner		02-Apr-07	12-Jul-07	22-Oct-07	6.7	MONTHS	142	67.2%
Video & Demob		06-Nov-07	03-Dec-07	31-Dec-07	1.8	MONTHS	35	18.2%
TOTAL					9.9	MONTHS		
					10.0		209	

	DATE of EST. to MID-POINT ACTIVITY DURATION	
a.	64.2	MONTHS
b.	1297	MONTHS

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION
OPERATIONS					0	MONTHS

DATE of EST. to MID-POINT ACTIVITY DURATION	
0	MONTHS

ACTIVITY DURATION IS USED IN DETERMINING NUMBER of WORKERS for CERCLA/SAT TRAINING HOURS and HEALTH PHYSICS COSTS.

APPENDIX "E"

TRAINING

PROJECT:	OSDF BASELINE CELL 7 LINER CCPLJ FY08	DATE:	17-May-01
ESTIMATE #:	C2-01-05-01-J8	ESTIMATOR:	RIS
CLIENT:	DOE	LOCATION:	FERNALD
WBS #:	1.1.C	TASK #:	CCPLJ

FLUOR FERNALD

Site Access Training Requirements (RM-0055 Rev. 1 Effective: 09/30/99)

Training Requirements	Non-Hazardous	Occasional Site Worker	General Site Worker		
Access Area	Administrative Support Area	Controlled Area	Contamination Compound	Frequency	
	8 Hour	24 Hour Hazwoper	40 Hour Hazwoper		
General Employee Training	X	X	X	Annually	
Site Worker Training		X	X	One Time	
Rad. Worker I		X		Biennially	
Rad. Worker II			X	Biennially	
Respirator Training *			X	Annually	
Respirator Fit Testing *			X	Annually	
Supervised Field Experience	0 HR	8 HR	24 HR	One time →	*On the Job*
Site Worker Refresher		X	X	Annually ⇨	4 Hour
Rad. Worker I Retraining		X		Every 2 years ⇨	4 Hour
Rad. Worker II Retraining			X	Every 2 years ⇨	8 Hour

Additional Training	HRS	No. of Workers	Total Hours
Job Specific Training =	2	7	14
Fire Watch Training =	1	2	2
Lead Worker Training =	4	7	28
Lock out / Tag out Training =	8	3	24
Rigging Training =	24	4	96
Scaffold Training =	16	4	64

DURATION 10 Month(s)

Average Rate $ 27.35

Number of General Site Worker(s)	2	General Site Worker Training Cost	$2,183
Number of Occasional Site Worker(s)	1	Occasional Site Training Cost	$656
Number of Non-Hazardous Worker(s)	1	Non-Hazardous Training Cost	$219
		Additional Training Cost	$6,236
Total Training Hours	340	Total Training Cost =	$9,293

* = All employees classified as General Site Worker must initially take respirator training. The annual requirement for the repeat of training and the fit test frequency requirements are only needed by those employees that are required to wear a respirator.

CCPLK

OSDF CELL #7 CAP

09/07/2001
11:43 AM

PBS: OHFN03
WBS: 1.1.C.D
CTRL ACCT: CCPL
CHARGE NO: CCPLK
COMMENT NO N/A

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

DATE: 05-Sep-01
PROJECT MGR: JD Chiou
CAM: JD Chiou
PREPARED BY: W. F. Fick
FISCAL YEAR: 2009-2010

Resource: FIELDSUB **FIELD SUBS** **EOC:** **SUBCONTRACTORS**
Res Dept: 949 **Overtime:** **Class:** **SUB**

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Units:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3,449,931.5	1,023,478.5
Cum Units:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3,449,931.5	4,473,410.0
Yr Total Cost:	0	0	0	0	0	0	0	0	4,311,209	1,316,081
Cum Total Cost:	0	0	0	0	0	0	0	0	4,311,209	5,627,290

GRAND TOTALS:

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Total Cost:	0	0	0	0	0	0	0	0	4,311,209	1,316,081
Cum Total Cost:	0	0	0	0	0	0	0	0	4,311,209	5,627,290

CAM_____ CONTROL TEAM_____

INCLUDES ESCALATION COSTS

CCLK

Fluor Fernald, Inc.

PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #2, #3, #4, #5, #6, & #7 Caps
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-05-A5 & A6
C2-2001-005-05-B6 & B7
C2-2001-005-05-D7 & D8
C2-2001-005-05-F8 & F9
C2-2001-005-05-H9 & H10
C2-2001-005-05-K9 & K10

BASIS OF ESTIMATE

SUPPORTING DOCUMENTATION:

Verbal Scope	☒	P & ID's	☐	Work Plan	☐
Drawings	☐	Equipment List	☐	Site Walk	☐
Sketches	☐	Specifications	☐	Eng. Mtg.	☒
Flow Diagrams	☐	Written Scope	☒	Estimate	☐

TYPE OF ESTIMATE:

Change Proposal	☐	Government	☐
Plan/Feasibility	☐	Conceptual	☐
Construction	☐	Title I Design	☐
Budget	☒	Independent	☐

BASIS OF ESTIMATE:

These estimates present the baseline cost for construction of the OSDF Cell caps. Each cell comprises two estimates, the earlier FY for the Bio-intrusion Barrier and the latter FY for the Filter, Vegetative Cover, and Vegetation. The included scope is from the Baseline Closure Plan and associated supporting documents. Durations are from the OSDF schedules and are presented in Appendix D. Control and Management is not included in these estimates; it is, however, included in a separate C & M estimate. Both projects are by the sub-contractor. Surveying by a three person sub-contractor crew at $140/hour is included. Both the surveying and project staffing costs are allocated among the various simultaneous OSDF projects per the OSDF documents and chart. Equipment operating costs assume an 85% operations factor unless otherwise indicated.

Fluor Fernald, Inc.

PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #2, #3, #4, #5, #6, & #7 Caps
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-05-A5 & A6
C2-2001-005-05-B6 & B7
C2-2001-005-05-D7 & D8
C2-2001-005-05-F8 & F9
C2-2001-005-05-H9 & H10
C2-2001-005-05-K9 & K10

Fluor Fernald purchases geo-synthetics (GML, Geotextile, etc.). Deployment of the geo-synthetics is by the sub-contractor. Welding and sewing is by a specialty contractor.

Fluor Fernald, Inc.
PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #2, #3, #4, #5, #6, & #7 Caps
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-05-A5 & A6
C2-2001-005-05-B6 & B7
C2-2001-005-05-D7 & D8
C2-2001-005-05-F8 & F9
C2-2001-005-05-H9 & H10
C2-2001-005-05-K9 & K10

ESTIMATE ASSUMPTIONS

EXECUTION:

- ☒ This project is to be performed on a 50-hour week, 10 hours a day.
- ☐ This project is to be performed on a 40-hour week, 8 hours a day.
- ☒ Premium time allowed.

WAGE RATES:

- ☒ Wage rates within this estimate are based on Project Labor Agreement rates, effective October 2000 and are considered FY01 dollars for estimating.
- ☐ Wage rates within this estimate are based on FF Support Contractor FSC 645 wage rates, effective January 30, 2001 and are considered FY01 dollars for estimating.
- ☐ Wage rates within this estimate are based on FF FTE Planning Labor Rates FY01.

ENGINEERING:

- ☒ N/A
- ☐ Engineering dollars provided by the Project Engineer.
- ☐ Engineering dollars have been factored in at the standard 12% of the total direct and indirect field costs as per request of Project Engineer.

CONSTRUCTION MANAGEMENT:

- ☐ N/A
- ☒ Construction Management staffing by discipline has been included.
- ☐ Construction Management dollars have been factored in at the standard 30% of the total direct and indirect field costs as per request of Project Engineer.

PROJECT MANAGEMENT:

- ☒ N/A

Fluor Fernald, Inc.
PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #2, #3, #4, #5, #6, & #7 Caps
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-05-A5 & A6
C2-2001-005-05-B6 & B7
C2-2001-005-05-D7 & D8
C2-2001-005-05-F8 & F9
C2-2001-005-05-H9 & H10
C2-2001-005-05-K9 & K10

☐ Project Management dollars provided by the Project Engineer.
☐ Project Management dollars have been factored in at the standard 30% of the total direct and indirect field costs as per request of Project Engineer.

WASTE PROGRAM MANAGEMENT:
☒ N/A
☐ Waste Program Management dollars provided by the Project Engineer.

PRODUCTIVITY:
A productivity factor has been developed and applied to the unit man-hours derived from MEANS, Richardson, NECA, and or any other published estimating source. See attachment APPENDIX "A" and APPENDIX "B".

ESCALATION:
Escalation costs are excluded from the target estimate. The escalation costs are calculated within the Micro-Frame computer system according to the plan for rebaselining.

UNIT RATES:
Unit man-hours and material dollars are based on Richardson, MEANS, NECA, National Constructor, historical data at Fernald, and or other published rates. Some man-hours and equipment requirements are provided by engineering and CM. Equipment rental rates and hourly operating costs are from the Blue Book Volume 1.

G & A (HO EXPENSE):
G & A are excluded from the target estimate. The G & A cost are calculated within the Micro-Frame computer system according to the plan for rebaselining.

Fluor Fernald, Inc.

PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #2, #3, #4, #5, #6, & #7 Caps
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-05-A5 & A6
C2-2001-005-05-B6 & B7
C2-2001-005-05-D7 & D8
C2-2001-005-05-F8 & F9
C2-2001-005-05-H9 & H10
C2-2001-005-05-K9 & K10

HEALTH PHYSICS:
See attached APPENDIX "C".

RISK BUDGET:
N/A

CONTINGENCY:
N/A

Fluor Fernald, Inc.

PROJECTS CONTROLS
ESTIMATING SERVICES

May 16, 2001

PROJECT DESCRIPTION: Baseline OSDF Cell #2, #3, #4, #5, #6, & #7 Caps
WBS NUMBER: 1.1.C.D
PROJECT ENGINEER: C. Van Arsdale
ESTIMATOR: R. Smolin
ESTIMATE NUMBER: C2-2001-005-05-A5 & A6
C2-2001-005-05-B6 & B7
C2-2001-005-05-D7 & D8
C2-2001-005-05-F8 & F9
C2-2001-005-05-H9 & H10
C2-2001-005-05-K9 & K10

ESTIMATE INCLUSIONS & EXCLUSIONS

INCLUSIONS:

- Mobilization.
- Demobilization.
- Labor hours.
- Material dollars.
- Equipment rental.
- Equipment operating.
- Contractor staffing.
- Geosynthetics purchase by FF.

EXCLUSIONS:

- Permits and fees.
- FF G & A (Home Office Expense).
- Escalation due to volatile petroleum costs.
- Any second tier subcontract costs.
- Project Management dollars.
- Waste Management dollars.
- Control & Management
- Landlord costs.

ESTIMATE SUMMARY SHEET

FLUOR FERNALD

PROJECT:	OSDF BASELINE CELL 7 CAP CCPLK FY10	DATE:	13-May-01
ESTIMATE #:	C2-01-05-05-K10	ESTIMATOR:	RIS
CLIENT:	DOE	LOCATION:	FERNALD
WBS #:	1.1.C	TASK NO.:	CCPLK

ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	EQUIP. $	TOTAL $
Insurance & Bond				incl in prior FY			
Submittals	89		$2,100		$100		$2,200
Overhead and Profit				$110,150			$110,150
Off Hours Dust Control w/FY 07							
Mobilization				$4,140	$100		$4,240
Site Preparation							
Granular Filter layer	820		$19,790		$61,200	$40,650	$121,640
Vegetative Soil Layer	2,600		$62,650			$107,960	$170,610
Vegetation	409		$9,670	$10,880	$24,180	$2,810	$47,540
Stabilization of Stockpiles	200		$4,960	$10,000		$4,210	$19,170
Close Out	463		17,720	$1,100	$750	$970	$20,540
Survey				$16,900			$16,900
Project Staffing	1,382		44,630				$44,630
DIRECT FIELD COSTS TOTAL	**5,963**	**$27.09**	**$161,520**	**$153,170**	**$86,330**	**$156,600**	**$557,620**
SUPERVISION - CONTRACTOR							
SMALL TOOLS & CONSUMABLES	-	-	-		$2,400		$2,400
MISC. EQUIP. RENTAL	-	-	-			$8,800	$8,800
TEMPORARY FACILITIES incl w/Mobilization							
TEMPORARY UTILITY HOOK-UP incl w/Mobilzation							
JOB CLEAN-UP incl w/Job Close-out							
PER DIEM / SUBSISTANCE	-	-	-				
HEALTH PHYSICS S/C incl w/Submittals							
CERCLA - TRAINING incl w/Submittals							
GET/SITE ACCESS & JOB SPECIFIC TRAINING w/su							
PAYROLL BURDENS & BENEFITS	-	-	$92,100				$92,100
OVERHEAD & PROFIT see above	-	-	-				
BOND see above	-	-	-				$8,600
SALES TAX	-	-	-		$5,300	$9,900	$15,200
INDIRECT FIELD COSTS TOTAL			**$92,100**		**$7,700**	**$18,700**	**$118,500**
DIRECT & INDIRECT FIELD COSTS TOTAL	**5,963**		**$253,620**	**$153,170**	**$94,030**	**$175,300**	**$676,120**
TARGET ESTIMATE			**(FY 01 DOLLARS)**				**$676,100**

ESTIMATE PERFORMED BY ESTIMATING SERVICES

ESTIMATE SUMMARY SHEET

PROJECT: OSDF BASELINE CELL 7 CAP CCPLK FY10 — DATE: 13-May-01

ESTIMATE NO. C2-01-05-05-K10 — ESTIMATOR: RIS

FACTORS

CLIENT: DOE — LOCATION: FERNALD

WBS NO.: 1.1.C — TASK NO.: CCPLK

FIXED PRICE $	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
DFC DOLLARS	$161,520	$153,170	$86,330	$156,600		$557,620
IFC COST FACTOR	1.5702	–	1.0278	1.0562	–	
BOND + OVERHEAD & PROFIT COST FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	
SALES TAX	-	-	1.0600	1.0600	1.0600	
DIRECT FIELD COST FACTOR =	1.5702	1.0000	1.0895	1.1196	1.0600	
BASE ESTIMATE $'S	$253,620	$153,170	$94,054	$175,324		$676,168
BASE FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	
TARGET ESTIMATE FACTOR	1.5702	1.0000	1.0895	1.1196	1.0600	
FPS TARGET ESTIMATE (FY00 $)	$253,620	$153,170	$94,054	$175,324		$676,168

NOTE:

IF THERE ARE NO DFC EQUIP. $, ENTER THE IFC EQUIP. $'S INTO THE DIRECT FIELD COST TOTAL AND DELETE IFC FACTOR IN G65.

ESTIMATE SUMMARY SHEET

PROJECT: OSDF BASELINE CELL 7 CAP CCPLK FY10 | **DATE:** 13-May-01

ESTIMATE NO. C2-01-05-05-K10 | **ESTIMATOR:** RIS

DIRECT FIELD COST W/FACTORS

CLIENT: DOE | **LOCATION:** FERNALD

WBS NO.: 1.1.C | **TASK NO.:** CCPLK

PAY ITEM NO.	DESCRIPTION	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
		(ASSIGN OR PRORATE PPE MAT'L.$'S)-->>					
	Insurance & Bond		incl in prior FY				
	Submittals	2100		100			
		$3,300		$110			$3,410
	Overhead and Profit		110150				
			$110,150				$110,150
	Off Hours Dust Control w/FY 07						
	Mobilization		4140	100			
			$4,140	$110			$4,250
	Site Preparation						
	Granular Filter layer	19790		61200	40650		
		$31,070		$66,680	$45,510		$143,260
	Vegetative Soil Layer	62650			107960		
		$98,370			$120,870		$219,240
	Vegetation	9670	10880	24180	2810		
		$15,180	$10,880	$26,340	$3,150		$55,550
	Stabilization of Stockpiles	4960	10000		4210		
		$7,790	$10,000		$4,710		$22,500
	Close Out	17720	1100	750	970		
		$27,820	$1,100	$820	$1,090		$30,830
	Survey		16900				
			$16,900				$16,900
	Project Staffing	44630					
		$70,080					$70,080
TOTAL DIRECT FIELD COSTS W/FACTORS		(FY01 DOLLARS)					$676,170

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #7 CAP, FY10
ESTIMATE NO.: C2-01-05-05-K10
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLK

ITEM NO.	SUMMARY	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST / UNIT Labor	COST / UNIT S/C	COST / UNIT Mat'l	COST / UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Insurance & Bond											incl in prior FY			
	Submittals w/FY 05				89						$2,100		$100		$2,200
	Overhead and Profit											$110,150			$110,150
	Mobilization											$4,140	$100		$4,240
	Site Preparation														
	Survey											$16,900			$16,900
	Granular Filter layer				820						$19,790		$61,200	$40,650	$121,640
	Vegetative Soil Layer				2,600						$62,650			$107,960	$170,610
	Vegetation				409						$9,670	10,880	24,180	2,810	$47,540
	Stabilization of Stockpiles				200						$4,960	10,000		4,210	$19,170
	Close Out				463						$17,720	1,100	750	970	$20,540
	Project Staffing				1,382						$44,630				$44,630
	Off Hours Dust Control w/FY 07														
	Subtotal Direct Cost	1	LOT		5963	$27.09					161,520	153,170	86,330	156,600	$557,620

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #7 CAP, FY10
ESTIMATE NO.: C2-01-05-05-K10
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLK

ITEM NO.			QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Insurance & Bond								COST							
	Performance bond	1.3%							THRU							
	Insurance	1.5%							OH & P							
	Sub-total	2.8%	18510						660924				incl in prior FY			
	Submittals															
D	Plans															
D	Technical submittals															
D	Site access & GET traing, cnstrct work force															
D	Site access & GET traing, PM, CM etc															
D	Site access & GET traing, surveyers & others				incl w/FY 05											
mD	CERCLA/RAD II training, constrct work force															
mD	CERCLA/RAD II traing, PM, CM etc															
mD	CERCLA/RAD II traing, surveyers & others															
D	Health Physics		1	LOT		89	23.64					$2,100		$100		$2,200
	Sub-total					89						$2,100		$100		$2,200
	Overhead and Profit															
					20%								$110,150			$110,150

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #7 CAP, FY10
ESTIMATE NO.: C2-01-05-05-K10
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLK

Mobilization	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
S/C Office Trailer 2 reqd	2.5	MO					550				$2,790			$2,790
Support trailers 1 reqd	2.5	MO					350				$890			$890
Portable toilets 2 ea	2.5	MTH					85				$430			$430
Potable water, Allow 5jug/mth, $8/jug	2.5	MTH					12	40			$30	$100		$130
Mobilization											4,140	100		$4,240

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #7 CAP, FY10
ESTIMATE NO.: C2-01-05-05-K10
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 12-Sep-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLK

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Off Hours Dust Control Included w/ Cell 2 Cap FY08														
D	Survey 2.5 mth							140				$16,900			$16,900
	Subtotal Direct Cost	1	LOT									16,900			$16,900

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #7 CAP, FY10
ESTIMATE NO.: C2-01-05-05-K10
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLK

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Granular Filter layer														
	Granular filter, sand, 10% waste	12000	ton						5.1				$61,200		$61,200
	Receive & stockpile	12000	ton												
D	1 operator	6	DAY	10	60	27.03					$1,620				$1,620
D	1 laborer	6	DAY	10	60	22.65					$1,360				$1,360
	Dozer, D8 6 day -	0.28	MTH							13145				$3,640	$3,640
	Dozer, D8 @85%		HR	51						39.66				$2,020	$2,020
	Load, haul, & place														
D	2 operators	10	DAY	20	200	27.03					$5,410				$5,410
D	1 laborer	10	DAY	10	100	22.65					$2,260				$2,260
D	4 teamsters	10	DAY	40	400	22.86					$9,140				$9,140
	Dozer, D6 LGP 10 day -	0.46	MTH							8245				$3,810	$3,810
	Loader, Cat 966 10 day -	0.46	MTH							6820				$3,150	$3,150
	4 Trucks, Volco A30 10 day -	0.46	MTH							7905				$14,590	$14,590
	Dozer, D6 LGP @85%		HR	85						24.76				$2,100	$2,100
	Loader, Cat 966 @ 85%		HR	85						24.90				$2,120	$2,120
	4 Trucks, Volco A30 @ 85%		HR	340						27.12				$9,220	$9,220
	Granular Filter layer	**1**	**LOT**		**820**	**$24.13**					**19,790**		**61,200**	**40,650**	**$121,640**

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #7 CAP, FY10
ESTIMATE NO.: C2-01-05-05-K10
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLK

ITEM NO.		QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Vegetative Soil Layer														
	Load & haul														
D	1 operator	20	DAY	10	200	27.03					$5,410				$5,410
D	6 teamsters	20	DAY	10	1200	22.86					$27,430				$27,430
	Excavator Cat 330	0.92	MTH							11490				$10,610	$10,610
	6 Trucks, Volco A30	0.92	MTH							7905				$29,190	$29,190
	Excavator, Cat 330 @ 85%		HR	170						24.90				$4,230	$4,230
	6 Trucks, Volco A30 @ 85%		HR	1020						27.12				$27,660	$27,660
	Place Vegetative Soil Layer														
D	3 operator	20	DAY	10	600	27.03					$16,220				$16,220
D	3 laborers	20	DAY	10	600	22.65					$13,590				$13,590
	Dozer Cat D6	0.92	MTH							7040				$6,500	$6,500
	Sheepsfoot roller, Cat 825	0.92	MTH							4335				$4,000	$4,000
	Smooth drum roller, Cat 563	0.92	MTH							13390				$12,360	$12,360
	Dozer Cat D6 @ 85%		HR	170						21.87				$3,720	$3,720
	Sheepsfoot roller @ 85%		HR	170						41.55				$7,060	$7,060
	Smooth drum roller, Cat 825 @ 85%		HR	170						15.48				$2,630	$2,630
	Sub-total				2600						$62,650			$107,960	$170,610
	Vegetation														
D	Erosion mat, jute	315810	sf	0.001	409	23.64			0.077	0.009	$9,670		$24,180	$2,810	$36,660
D	Vegetation	7.25	acre					1500				$10,880			$10,880
	Sub-total				409						$9,670	10880	24180	2810	$47,540
					#REF!										
	Stabilization of Stockpiles														
D	Laborers, 2 reqd	5	DAY	20	100	22.65					$2,260				$2,260
D	Operator, 2 reqd	5	DAY	20	100	27.03					$2,700				$2,700
	Dozer D6 1 wk	0.23	MTH							7040				$1,620	$1,620
	Steel drum roller 1 wk	0.23	MTH							4335				$1,000	$1,000
	Dozer D6 @ 85 %		HR	43						21.87				$930	$930
	Steel drum roller @ 85%		HR	43						15.48				$660	$660
	Crusting agent	5	acre					2000				$10,000			$10,000
	Sub-total				200						$4,960	$10,000		$4,210	$19,170

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #7 CAP, FY10
ESTIMATE NO.: C2-01-05-05-K10
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLK

ITEM NO.		QTY	UNIT	Unit	Total	Rate	COST/UNIT Labor	S/C	Mat'l	Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Close Out														
D	Job Clean-up	1	LOT	1%	32	23.64					$750		$250		$1,000
D	Project Closeout documents	25	EA	10	250	50.64					$12,660				$12,660
	Demobilization														
D	Complete Punch List Items.	1	LS	80	80	23.64				100	$1,890			$100	$1,990
D	Remove Trailers	1	LS	8	8	23.64		1,000	500	500	$190	$1,000	$500	$580	$2,270
D	Remove Utilities.	1	LS	20	20	24.93		100			$500	$100			$600
D	Loadout Contractors Equipment.	25	EA	2	50	23.64				10	$1,180			$290	$1,470
D	Remove fence	1000	LF	0.023	23	23.64					$550				$550
	Subtotal				463						$17,720	1100	750	970	$20,540
		1	LOT		926	$38.27					35,440	2,200	1,500	1,940	$41,080

DETAIL ESTIMATE WORKSHEETS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #7 CAP, FY10
ESTIMATE NO.: C2-01-05-05-K10
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLK

ITEM NO.			QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	Project Staffing		Shared percent													
D	Project Manager	2.2 mth	25%	hr	1	70	54.42					$3,790				$3,790
D	General Superintendent	2.2 mth	25%	hr	1	70	37.85					$2,630				$2,630
D	Superintendent	2.2 mth	30%	hr	2	298	32.99					$9,840				$9,840
D	Project Engineer	2.2 mth	40%	hr	1	199	33.19					$6,600				$6,600
D	Quality Engineer	2.2 mth	37.5%	hr	2	373	28.05					$10,460				$10,460
D	Safety Engineer	2.2 mth	37.5%	hr	2	373	30.34					$11,310				$11,310
D	Office Administration	in overhead					19.31									
D	Contract Administration/ Schedu	in overhead					25.58									
D	Clerical	in overhead					14.58									
	TOTAL					1,382	32.30					$44,630				$44,630
			1	LOT												

APPENDIX " A"

PROJECT: Baseline OSDF CELL #7 CAP, FY10
ESTIMATE NC C2-01-05-05-K10
CLIENT: DOE
WBS NO.: 1.1.C.D

SITE SPECIFIC

EFFICIENCY / MULTIPLIER ANALYSIS

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLK

PERCENT OF INFLUENCE ON CHART MANHOURS

	40%	50%	60%	70%	80%	90%	100%	105%	110%	% OF NFLUENCE	WT'D VALUE	PROD. RESULT
CRAFT SKILL (NOTE 1)	POOR			FAIR			STD	V.GOOD	EXCELLENT	90.0%	12.0%	0.108
CRAFT AVAIL.(NOTE 1)		POOR		FAIR			STD			100.0%	8.0%	0.08
CLIMATE (NOTE 2)	SEVERE	ICE/SNOW			RAIN		+40 TO +85			80.0%	20.0%	0.16
PLANT ELEVATION		OVER 10,000FT			5,000' TO 10,000 FT		UNDER 5,000 FT			100.0%	5.0%	0.05
WORK SPACE				200 SF	250 SF	300 SF	350 SF			100.0%	10.0%	0.1
	<---- MULTIPLE SHIFTS-											
WORK WEEK						5-10s per Means R010-110				85.0%	15.0%	0.1275
50 HOUR WORK WEEK	////////// ////// MULTIPLE-SHIFT //////////	//////////	//////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS				0.0%	0.0%	0
60 HOUR WORK WEEK	////////// //////////	////////// //////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS					0.0%	0.0%	0
SHIFTWORK 2ND SHIFT 3RD SHIFT			 3RD SHIFT		2ND SHIFT		OR ONE SHIFT ONLY			 100.0% 100.0%	 3.0% 5.0%	 0.03 0.05
PROJECT SIZE					400M MH AND UP	300M TO 400M MH	200M TO 300M MH	200M MH OR LESS		105.0%	4.0%	0.042
PLANT TYPE				REVAMP ONLY	REVAMP & NEW	NEW IN EXIST PLT	GRASS ROOTS			95.0%	8.0%	0.076
AREA/UNION INFLUENCE	STRONG		MILD		SOME		NONE			80.0%	10.0%	0.08
											100.0%	90.4%

NOTES.....
1. TURNOVER HAS BEEN CONSIDERED

2. FOR EXTERIOR WORK ONLY

EFFICIENCY (AS A % OFF CHART MANHOURS) 90.4%

MULTIPLIER - (TO BE APPLIED TO CHART M.H.'S TO OBTAIN SITE M.H.'S) 1.11

EFFICIENCY FACTORS

PROJECT: Baseline OSDF CELL #7 CAP, FY10
ESTIMATE NO. C2-01-05-05-K10
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLK

EXAMPLE:

STANDARD CHART MANHOURS =	NET	100
EFFICIENCY FACTORS:		
* SITE SPECIFIC (SEE APPENDIX A)	[redacted]	11.0
S/T = BASE UNIT MANHOURS		111
OVERTIME PRODUCTIVITY FACTOR (SEE DETAIL WORKSHEET BACK-UP)	0.00%	0
		111
* TASK SPECIFIC (confined space, high elevation, congestion, etc.)	0.0%	0
		111

* PPE SPECIFIC (Based on current data and estimating knowledge)

	PPE LEVEL									
	D		Mod.'D'		Mod. "C"		C		C+	
PRODUCTIVITY HOURS		MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's
(AS A %) / ADD MH's	5.00%	6	27.00%	30	64.00%	71	72.00%	80	96.00%	107
(AS A MULTIPLIER)/TOTAL HRS	1.05	116.6	1.27	141	1.64	182	1.72	190.9	1.96	217.6
TOTAL MULTIPLIER w/SITE PROD.	1.1655		1.4097		1.8204		1.9092		2.1756	

NOTE : Use the Default Productivity Factor of 'mC' for working in a contaminated area if the Safety Level cannot be determined.

(SEE FD FERNALD ESTIMATING SERVICES REFERENCE MANUAL IM-6006 8.10)

Total hours worked in a specific PPE level divided by 10 hour working days = (PPE) ManDays to determine material cost of PPE's.
(SEE APPENDIX C - HEALTH PHYSICS)

	12.0	Man Days	14.0	Man Days	18.0	Man Days	19.0	Man Days	22.0	Man Days

THESE EFFICIENCY FACTORS WERE APPLIED INDIVIDUALLY THROUGHOUT THE ESTIMATE AT A TASK SPECIFIC LEVEL, TO OBTAIN A MORE ACCURATE ACCOUNT OF OVERALL EFFICIENCY IMPACT DUE TO PPE REQUIREMENTS IN HANDLING CONTAMINATED AND HAZARDOUS WASTE.

EFFICIENCY FACTORS

PROJECT: Baseline OSDF CELL #7 CAP, FY10
ESTIMATE NO. C2-01-05-05-K10
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLK

PPE MULTIPLIER DEVELOPEMENT

		D	mD	mC	C	C+
CREW SIZE & MAKE-UP	STANDARD	7	7	7	7	7
	WORKER-BUDDY	0	0	0	0	0
	SUPPORT TEAM	0	0	0	0	0
	TOTAL CREW	7	7	7	7	7
CREW SIZE RATIO		1.00	1.00	1.00	1.00	1.00
AVAILABLE WORK TIME FACTOR		0.95	0.79	0.71	0.71	0.68
PPE LABOR PRODUCTIVITY FACTOR		1	1	0.86	0.82	0.75
NET PRODUCTIVITY RATIO		0.95	0.79	0.611	0.582	0.51
NET PRODUCTIVITY MULTIPLIER		**1.05**	**1.27**	**1.64**	**1.72**	**1.96**

These factors were based on Tables 6.1 and 6.2, Moderate Work Efforts, 66F to 85F temperature of 'Hazardous Waste Cost Control' by R.A.Selg. Modifications were made to reflect a 10 hour work day and no buddy system or support team for levels D, mC and C.
The worker-buddy and support team members, if required, may be covered under Construction Mgmt. (Rad Techs).

AVAILABLE WORK TIME FACTOR		D	mD	mC	C	C+
TOTAL WORK MINUTES per [5 - 10's		600	600	600	600	600
ADDITN'L.SITE SAFETY MEETINGS NOT INCLD. IN BAS	QUANTITY	1	1	1	1	1
	MINUTES	25	25	25	25	25
TOTAL		25	25	25	25	25
PPE DON & DOFFING	QUANTITY	0	0	3	3	3
(ADJUST LEVEL D per WORK PLAN)	MINUTES	0	0	15	15	20
TOTAL			0	45	45	60
WORK BREAKS	QUANTITY	N/A	2	2	2	2
(ADJUST LEVEL D per WORK PLAN)	MINUTES	N/A	15	15	15	15
TOTAL			30	30	30	30
MOBILIZATION - ROUND TRIPS	QUANTITY	N/A	4	4	4	4
(ADJUST LEVEL D per WORK PLAN)	MINUTES	N/A	15	15	15	15
TOTAL			60	60	60	60
COOLDOWNS PER DAY	QUANTITY	2	3	4	4	4
** (2 OUT OF 8 MONTHS) 25.00%	MINUTES	10	12	15	15	15
TOTAL		5	9	15	15	15
AIR TANK REPLACEMENT	QUANTITY	N/A	N/A	N/A	N/A	N/A
	MINUTES	N/A	N/A	N/A	N/A	N/A
TOTAL						
AVAILABLE WORK TIME		570	476	425	425	410
AVAILABLE WORK TIME FACTOR		**0.95**	**0.79**	**0.71**	**0.71**	**0.68**

NOTE: Adjust 'Work Minutes per Day' basis to: 5 - 8's, or leave as 4 - 10's . Any other circumstances, over-ride the minutes per day.

** Assumption based on work performed in May, June, July & August, pro-rating cost over one year. Adjust % to individual circumstances. Changed to July & August over an 8 mth period.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: Baseline OSDF CELL #7 CAP, FY10
ESTIMATE NO. C2-01-05-05-K10
CLIENT: DOE
WBS NO.: 1.1.C.D

FLUOR FERNALD

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLK

PPE"s - PERSONAL PROTECTIVE EQUIPMENT

DESCRIPTION	UNIT	UNIT COST	* NO. OF CHANGE OUTS PER WORKER PER DAY				
			Man Days (TOTAL HOURS worked in PPE's Div. by WORK HOURS / DAY)				
PPE LEVEL C / C+ / B : F/HF MASK w/RESP.&CART.			*	MAN DAYS	MAT'L.$'s	PPE LEVEL	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	(DOUBLE PPE)
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	C / C+	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	C / C+	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	C / C+	
APR CARTRIDGES - DISPOSABLE	PR	$6.98	3	0	$0	C / C+	
SUB-TOTAL		$17.42	3		$0		
				$/MD =	$0.00		
PPE LEVEL mC : FULL DRESS w/ FACE SHIELD				MAN DAYS	MAT'L.$'s	PPE LEVEL	
LT.WT. DISPOSABLE COVERALLS W/HOOD & BOOTIE	PR	$4.46	3	0	$0	mC	
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	mC	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	mC	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	mC	
SUB-TOTAL		$5.98	3		$0		
				$/MD =	$0.00		
SUBCONTRACTOR REQUIRED PURCHASES			QTY. PER WKR.	NO. OF WORKERS	MAT'L.$'s	PPE LEVEL	
RUBBER BOOT COVERS-(1)PR.PER WORKER	PR	$12.70	2	5	$127	D/C/B	
APR w/HALF FACE MASK - (1) PER WORKER	EA	$22.30	6	0	$0	C	
APR w/FULL FACE MASK - (1) PER WORKER	EA	$174.00	6	0	$0	C	
SCBA	EA	$1,894.00	2	0	$0	B	
COOL VESTS	EA	$137.50	6	0	$0	C/B	
THERMO STRIPS	EA	$50.00	6	0	$0	C/B	
SUB-TOTAL					$130		

	MAT'L.$'s
TOTAL PPE's =	$100

(FORWARD TO PAGE 2 OF 2)

OTHER PPE's SUCH AS HARD HAT, SAFETY GLASSES/GOGGLES, STEEL TOED SAFETY SHOES, HEARING PROTECTION, ARE CONSIDERED THE SUBCONTRACTORS RESPONSIBILITY AND ARE COVERED IN HIS OVERHEAD EXPENSE.
COSTS OF FD FERNALD SUPPLIED PPE's, SUCH AS COTTON COVERALLS, EXCHANGE OF RUBBER BOOT COVERS AND RESPIRATORS FOR CHANGEOUTS AND CLEANING OF SAME IS INCURRED BY FD FERNALD AND COSTS ARE NOT INCLUDED AS PART OF PROJECT COSTS AT THIS TIME.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: Baseline OSDF CELL #7 CAP, FY10
ESTIMATE NO. C2-01-05-05-K10
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLK

--MEDICAL MONITORING --

MEDICAL - PHYSICAL and IN-VIVO MONITORING - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION PHYSICAL (3hrs), IN-VIVO (1hr)	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $
BASELINE PHYSICALS	1	4	0	0	$27.09	$0
ANNUAL PHYSICALS	0	4	0	0	$27.09	$0
EXIT (TERMINATION) PHYSICALS (IN-VIVO)	1	1	0	0	$27.09	$0
SUB-TOTAL						$0

RADIATION IN-VITRO SURVEILLANCE - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $
BI-MONTHLY BIOASSAY	6	1	0	0	$27.09	$0
SUB-TOTAL						$0

RANDOM DRUG TESTING

	TESTS	HRS	TOTAL HOURS	AVG. RATE	LABOR $'s
	5	2	10	$27.09	$300

NO. OF WKRS. TESTED	TESTING DAYS PER YR.	AVG. NO. OF TESTS PER DAY	CHANCE/ DAY FOR TEST	NO. OF WKRS. FOR THIS ESTIMATE	CHANCES /DAY FOR TEST FOR PROJECT	CONSTR WORKING DAYS
2340	226	10	0.0042735	25	0.1068	49

		LABOR $'s THRU SAFETY	LABOR $'s
WORK DELAYS CAUSED BY MONITORING	0.5%	$159,420	$800
			LABOR $'s
WORK DELAYS CAUSED BY RAD CHECKING	0.5%	$159,420	$800

	TOTAL LABOR	TOTAL MAT'L.	GRAND TOTAL
TOTAL HEALTH PHYSICS	$1,900	$100	$2,000

(FORWARD TO ESTIMATE SUMMARY SHEET)

ACTIVITY DURATIONS

FLUOR FERNALD

PROJECT: Baseline OSDF CELL #7 CAP, FY10
ESTIMATE NO. C2-01-05-05-K10
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: RIS
LOCATION: FERNALD
TASK NO.: CCPLK

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION	Days per Schedule	
						Each Year		
Biointrusion	04-May-01	02-Mar-09	26-Jun-09	21-Oct-09	7.7	MONTHS	164	75.2%
Filter, Veg layer, Veg		15-Oct-09	22-Nov-09	31-Dec-09	2.5	MONTHS	51	24.8%
TOTAL					10.2	MONTHS		
					10.0		215	

	DATE of EST. to MID-POINT ACTIVITY DURATION	
a.	97.9	MONTHS
b.	1320	MONTHS

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION
OPERATIONS					0	MONTHS

DATE of EST. to MID-POINT ACTIVITY DURATION	
0	MONTHS

ACTIVITY DURATION IS USED IN DETERMINING NUMBER of WORKERS for CERCLA/SAT TRAINING HOURS and HEALTH PHYSICS COSTS.

SECTION 4

5.0 RISK PLAN

Risk/Opportunity Identification and Analysis Form

Project: OSDF Construction		PBS Number: 03			Total Baseline Dollars (Minimum Case):			$103,940,982		
Evaluator: Wolinsky		WBS Number: 1.1.C.D								
CAM: J.D. Chiou	Date: 05/01/01	Control Account Number: CCPL								
Project Task	Risk and/or Opportunity	Potential Impact	Internal Or External Driver	Impact Cost $ (Maximum Case)	Risk Impact Level	Risk Probability %	Risk Probability Level	Probable Cost $ (Likeliest Case)	Risk Critical Value	Risk Handling Strategy
Charge No. CCPL1, OSDF Construction Matrixed Labor										
	None									
Charge No. CCPL2, OSDF Borrow Area Development										
Borrow Area Development	Not enough brown clay for liner and cap on east side of south FEMP access road	Change in liner processing to also use gray till requires a test pad program	Internal	$1,000,000.00	3	20	2	$200,000.00	3	Accept
Borrow Area Development	Inclement weather or other unplanned delay results in lower than expected work progress on clay screening for Cell 4 liner	Additional month to screen clay material for liner or cap using site support subcontractor	Internal	$250,000.00	2	50	3	$125,000.00	2	Accept
Charge No. CCPL3, OSDF Placement										
Placement of Material in Cell	Increase in CAT 2-5 volume	Expansion of OMTA	Internal	$70,000.00	2	30	3	$21,000.00	2	Accept
Placement of Material in Cell	Contaminated runoff crosses over into certified areas	Re-excavation of contaminated soils	Internal	$20,000.00	1	10	2	$2,000.00	1	Accept
~~Placement of Material in Cell~~ R1-0622	~~Thorium contamination of Cell~~	~~Establishing Thorium area, PPE increase, decon of equipment~~	~~Internal~~	~~$50,000.00~~	~~1~~	~~80~~	~~5~~	~~$40,000.00~~	~~2~~	~~Accept~~
Placement of Material in Cell	Above WAC material found in Cell	Remove above WAC material from Cell requires a 1 month schedule extension	Internal	$1,000,000.00	2	20	2	$200,000.00	2	Accept
Placement of Material in Cell	Placement of material in cell requires more time due to a 12-month delay in site critical path work affecting OSDF	Twelve-month schedule extension with attendant additional costs	Internal	$12,000,000.00	5	50	3	$6,000,000.00	10	Accept
Placement of Material in Cell	Extensive contamination of subcontractor-owned equipment	Purchase of subcontractor-owned equipment	Internal	$500,000.00	2	25	2	$125,000.00	2	Accept
Charge No. CCPL4, OSDF Phase III Constr/Mat'l/Services										
Construction of Cell 1 Cap	Construction of Cell 1 cap takes more time than projected by subcontractor	Three month schedule extension	Internal	$350,000.00	2	40	3	$140,000.00	2	Accept

Risk/Opportunity Identification and Analysis Form

Project: OSDF Construction		PBS Number: 03			Total Baseline Dollars (Minimum Case):			$103,940,982		
Evaluator: Wolinsky		WBS Number: 1.1.C.D								
CAM: J.D. Chiou	Date: 05/01/01	Control Account Number: CCPL								
Project Task	Risk and/or Opportunity	Potential Impact	Internal Or External Driver	Impact Cost $ (Maximum Case)	Risk Impact Level	Risk Probability %	Risk Probability Level	Probable Cost $ (Likeliest Case)	Risk Critical Value	Risk Handling Strategy
Charge No. CCPLA, OSDF Cell #2 Cap										
Geosynthetic material procurment	Increase in petroleum costs	50% increase in cost of geosynthetic material	Internal	$100,000.00	2	30	2	$30,000.00	2	Accept
Geosynthetic material failure after completion of cap	Failure of geosynthetic material (not seams provided by subcontractor)	Topsoil, vegatative layer & rock: remove, stockpile, repair, replace, revegetate	Internal	$4,000,000.00	3	15	2	$600,000.00	3	Accept
Construction of cap - general	Minor construction schedule extension due to various issues, e.g., inclement weather, equipment deliveries, rework	Three-month schedule extension	Internal	$350,000.00	2	20	2	$70,000.00	2	Accept
Topsoil Organics	No vegetative growth	Apply organic treatment to topsoil	Internal	$50,000.00	2	25	2	$12,500.00	2	Accept
Charge No. CCPLB, OSDF Cell #3 Cap										
Geosynthetic material procurement	Increase in petroleum costs	Increased cost of geosynthetic material	Internal	$100,000.00	2	40	3	$40,000.00	3	Accept
Geosynthetic material failure after completion of cap	Failure of geosynthetic material (not seams provided by subcontractor)	Topsoil, vegatative layer & rock: remove, stockpile, repair, replace, revegetate	Internal	$4,000,000.00	3	15	2	$600,000.00	3	Accept
Construction of cap - general	Minor construction schedule extension due to various issues, e.g., inclement weather, equipment deliveries, rework	Three-month schedule extension	Internal	$350,000.00	2	20	2	$70,000.00	2	Accept
Topsoil Organics	No vegetative growth	Apply organic treatment to topsoil	Internal	$50,000.00	2	25	2	$12,500.00	2	Accept
Charge No. CCPLO, OSDF Cell #4 Liner										
Site Preparation - Subgrade	Unforseen subsurface conditions requires soil removal and replacement	Schedule delay of 2 weeks plus replacement of soil in excavated area	Internal	$50,000.00	1	30	2	$15,000.00	1	Accept
Site Preparation - Subgrade	Unexpected discovery of cultural resources requires sampling and documentation	Schedule delay of 2 months	Internal	$400,000.00	2	10	2	$40,000.00	2	Accept
Primary & Secondary Geosynthetic Liners	Increase in petroleum costs	Increased cost of geosynthetic material	Internal	$250,000.00	2	25	2	$62,500.00	2	Accept

Risk/Opportunity Identification and Analysis Form

Project: OSDF Construction		PBS Number: 03			Total Baseline Dollars (Minimum Case):			$103,940,982		
Evaluator: Wolinsky		WBS Number: 1.1.C.D								
CAM: J.D. Chiou	Date: 05/01/01	Control Account Number: CCPL								
Project Task	Risk and/or Opportunity	Potential Impact	Internal Or External Driver	Impact Cost $ (Maximum Case)	Risk Impact Level	Risk Probability %	Risk Probability Level	Probable Cost $ (Likeliest Case)	Risk Critical Value	Risk Handling Strategy
Primary & Secondary Geosynthetic Liners	Failure of geosynthetic material (not seams provided by subcontractor)	Topsoil, vegatative layer & rock: remove, stockpile, repair, replace, revegetate	Internal	$5,000,000.00	3	15	2	$750,000.00	3	Accept
Cell Area Leachate Systems	Video Inspection yields problems requiring resolution	Schedule delay of 8 weeks to repair	Internal	$100,000.00	2	20	2	$20,000.00	2	Accept
Construction of liner - general	Minor construction schedule extension due to various issues, e.g., inclement weather, equipment deliveries, rework	Three-month schedule extension	Internal	$350,000.00	2	20	2	$70,000.00	2	Accept
Charge No. CCPLD OSDF Cell #4 Cap										
Geosynthetic material procurement	Increase in petroleum costs	Increased cost of geosynthetic material	Internal	$100,000.00	2	50	3	$50,000.00	3	Accept
Geosynthetic material failure after completion of cap	Failure of geosynthetic material (not seams provided by subcontractor)	Topsoil, vegatative layer & rock: remove, stockpile, repair, replace, revegetate	Internal	$4,000,000.00	3	15	2	$600,000.00	3	Accept
Construction of cap - general	Minor construction schedule extension due to various issues, e.g., inclement weather, equipment deliveries, rework	Three-month schedule extension	Internal	$350,000.00	2	20	2	$70,000.00	2	Accept
Topsoil Organics	No vegetative growth	Apply organic treatment to topsoil	Internal	$50,000.00	2	25	2	$12,500.00	2	Accept
Charge No. CCPLE OSDF Cell #5 Liner										
Site Preparation - Subgrade	Unforseen subsurface conditions requires soil removal and replacement	Schedule delay of 2 weeks plus replacement of soil in excavated area	Internal	$50,000.00	1	30	2	$15,000.00	1	Accept
Site Preparation - Subgrade	Unexpected discovery of cultural resources requires sampling and documentation	Schedule delay of 2 months	Internal	$400,000.00	2	20	2	$80,000.00	2	Accept
Primary & Secondary Geosynthetic Liners	Increase in petroleum costs	Increased cost of geosynthetic material	Internal	$250,000.00	2	30	3	$75,000.00	2	Accept
Primary & Secondary Geosynthetic Liners	Failure of geosynthetic material (not seams provided by subcontractor)	Topsoil, vegatative layer & rock: remove, stockpile, repair, replace, revegetate	Internal	$5,000,000.00	3	15	2	$750,000.00	3	Accept

Risk/Opportunity Identification and Analysis Form

Project: OSDF Construction		PBS Number: 03			Total Baseline Dollars (Minimum Case):			$103,940,982		
Evaluator: Wolinsky		WBS Number: 1.1.C.D								
CAM: J.D. Chiou	Date: 05/01/01	Control Account Number: CCPL								
Project Task	Risk and/or Opportunity	Potential Impact	Internal Or External Driver	Impact Cost $ (Maximum Case)	Risk Impact Level	Risk Probability %	Risk Probability Level	Probable Cost $ (Likeliest Case)	Risk Critical Value	Risk Handling Strategy
Cell Area Leachate Systems	Video Inspection yields problems requiring resolution	Schedule delay of 8 weeks to repair	Internal	$100,000.00	2	20	2	$20,000.00	2	Accept
Construction of cap - liner	Minor construction schedule extension due to various issues, e.g., inclement weather, equipment deliveries, rework	Three-month schedule extension	Internal	$350,000.00	2	20	2	$70,000.00	2	Accept
Charge No. CCPLF OSDF Cell #5 Cap										
Geosynthetic material procurement	Increase in petroleum costs	Increased cost of geosynthetic material	Internal	$100,000.00	2	75	5	$75,000.00	3	Accept
Geosynthetic material failure after completion of cap	Failure of geosynthetic material (not seams provided by subcontractor)	Topsoil, vegatative layer & rock: remove, stockpile, repair, replace, revegetate	Internal	$4,000,000.00	3	15	2	$600,000.00	3	Accept
Construction of cap - general	Minor construction schedule extension due to various issues, e.g., inclement weather, equipment deliveries, rework	Three-month schedule extension	Internal	$350,000.00	2	20	2	$70,000.00	2	Accept
Topsoil Organics	No vegetative growth	Apply organic treatment to topsoil	Internal	$50,000.00	2	25	2	$12,500.00	2	Accept
Charge No. CCPLG OSDF Cell #6 Liner										
Site Preparation - Subgrade	Unforseen subsurface conditions requires soil removal and replacement	Schedule delay of 2 weeks plus replacement of soil in excavated area	Internal	$50,000.00	1	30	2	$15,000.00	1	Accept
Site Preparation - Subgrade	Unexpected discovery of cultural resources requires sampling and documentation	Schedule delay of 2 months	Internal	$400,000.00	2	20	2	$80,000.00	2	Accept
Primary & Secondary Geosynthetic Liners	Increase in petroleum costs	Increased cost of geosynthetic material	Internal	$250,000.00	2	40	3	$100,000.00	2	Accept
Primary & Secondary Geosynthetic Liners	Failure of geosynthetic material (not seams provided by subcontractor)	Topsoil, vegatative layer & rock: remove, stockpile, repair, replace, revegetate	Internal	$5,000,000.00	3	15	2	$750,000.00	3	Accept
Cell Area Leachate Systems	Video Inspection yields problems requiring resolution	Schedule delay of 8 weeks to repair	Internal	$100,000.00	2	20	2	$20,000.00	2	Accept

Risk/Opportunity Identification and Analysis Form

Project: OSDF Construction		PBS Number: 03			Total Baseline Dollars (Minimum Case):			$103,940,982		
Evaluator: Wolinsky		WBS Number: 1.1.C.D								
CAM: J.D. Chiou	Date: 05/01/01	Control Account Number: CCPL								
Project Task	Risk and/or Opportunity	Potential Impact	Internal Or External Driver	Impact Cost $ (Maximum Case)	Risk Impact Level	Risk Probability %	Risk Probability Level	Probable Cost $ (Likeliest Case)	Risk Critical Value	Risk Handling Strategy
Construction of liner - general	Minor construction schedule extension due to various issues, e.g., inclement weather, equipment deliveries, rework	Three-month schedule extension	Internal	$350,000.00	2	20	2	$70,000.00	2	Accept
Charge No. CCPLH, OSDF Cell #6 Cap										
Geosynthetic material procurement	Increase in petroleum costs	Increased cost of geosynthetic material	Internal	$100,000.00	2	75	5	$75,000.00	3	Accept
Geosynthetic material failure after completion of cap	Failure of geosynthetic material (not seams provided by subcontractor)	Topsoil, vegatative layer & rock: remove, stockpile, repair, replace, revegetate	Internal	$4,000,000.00	3	15	2	$600,000.00	3	Accept
Construction of cap - general	Minor construction schedule extension due to various issues, e.g., inclement weather, equipment deliveries, rework	Three-month schedule extension	Internal	$350,000.00	2	20	2	$70,000.00	2	Accept
Topsoil Organics	No vegetative growth	Apply organic treatment to topsoil	Internal	$50,000.00	2	25	2	$12,500.00	2	Accept
Charge No. CCPLJ, OSDF Cell #7 Liner										
Cell #7 Liner Construction - General	Cell #7 material volumes are greater than anticipated requiring a larger Liner	Increase liner size by 50%	Internal	$1,000,000.00	3	50	4	$500,000.00	5	Accept
Site Preparation - Subgrade	Unforseen subsurface conditions requires soil removal and replacement	Schedule delay of 2 weeks plus replacement of soil in excavated area	Internal	$50,000.00	1	30	2	$15,000.00	1	Accept
Site Preparation - Subgrade	Unexpected discovery of cultural resources requires sampling and documentation	Schedule delay of 2 months	Internal	$400,000.00	2	20	2	$80,000.00	2	Accept
Primary & Secondary Geosynthetic Liners	Increase in petroleum costs	Increased cost of geosynthetic material	Internal	$250,000.00	2	75	5	$187,500.00	3	Accept
Primary & Secondary Geosynthetic Liners	Failure of geosynthetic material (not seams provided by subcontractor)	Topsoil, vegatative layer & rock: remove, stockpile, repair, replace, revegetate	Internal	$5,000,000.00	3	15	2	$750,000.00	3	Accept
Cell Area Leachate Systems	Video Inspection yields problems requiring resolution	Schedule delay of 8 weeks to repair	Internal	$100,000.00	2	20	2	$20,000.00	2	Accept

Risk/Opportunity Identification and Analysis Form

Project: OSDF Construction		PBS Number: 03			Total Baseline Dollars (Minimum Case):			$103,940,982		
Evaluator: Wolinsky		WBS Number: 1.1.C.D								
CAM: J.D. Chiou	Date: 05/01/01	Control Account Number: CCPL								
Project Task	Risk and/or Opportunity	Potential Impact	Internal Or External Driver	Impact Cost $ (Maximum Case)	Risk Impact Level	Risk Probability %	Risk Probability Level	Probable Cost $ (Likeliest Case)	Risk Critical Value	Risk Handling Strategy
Construction of liner - general	Minor construction schedule extension due to various issues, e.g., inclement weather, equipment deliveries, rework	Three-month schedule extension	Internal	$350,000.00	2	20	2	$70,000.00	2	Accept
Charge No. CCPLK, OSDF Cell #7 Cap										
Geosynthetic material procurement	Increase in petroleum costs	Increased cost of geosynthetic material	Internal	$100,000.00	2	75	5	$75,000.00	3	Accept
Geosynthetic material failure after completion of cap	Failure of geosynthetic material (not seams provided by subcontractor)	Topsoil, vegatative layer & rock: remove, stockpile, repair, replace, revegetate	Internal	$4,000,000.00	3	15	2	$600,000.00	3	Accept
Construction of cap - general	Minor construction schedule extension due to various issues, e.g., inclement weather, equipment deliveries, rework	Three-month schedule extension	Internal	$350,000.00	2	20	2	$70,000.00	2	Accept
Topsoil Organics	Inadequate vegetative gro	Apply organic treatment to topsoil	Internal	$50,000.00	2	25	2	$12,500.00	2	Accept
Cell #7 cap construction	Cell #7 material volumes are greater than anticipated requiring a larger Cap	Increase cap size by 50%	Internal	$1,000,000.00	3	50	4	$500,000.00	5	Accept
			Total:	$68,790,000.00			Total:	$16,378,000.00		
Charge No. CCPL3										
Placement of Material in Cell	Regulatory disapproval of DOE requested IMPP change for a 2-foot intervening layer from the current 4 feet	One additional year schedule extension	External	$12,000,000.00	5	20	2	$2,400,000.00	8	
Charge No. CCPLA										
Construction of additional cap	Build and remove a single-cell permanent cap for a long-term OSDF shutdown	Two-year schedule extension	External	$8,000,000.00	4	10	2	$800,000.00	5	
Charge No. CCPLB										
Construction of additional cap	Build and remove a single-cell permanent cap for a long-term OSDF shutdown	Two-year schedule extension	External	$8,000,000.00	4	10	2	$800,000.00	5	

Note: CCPLD, CCPLF, CCPLH and CCPLk deleted from table prior to receipt of comment.

R1 - D623

OSDF Controls and Management

WBS DICTIONARY
CONTROL ACCOUNT/CHARGE NUMBER

U.S. DEPARTMENT OF ENERGY
WORK BREAKDOWN STRUCTURE DICTIONARY
PART II - ELEMENT DEFINITION

1. PROJECT TITLE	2. DATE OF CONTRACT	
FEMP (DEFENSE)	12/01/2000	
3. IDENTIFICATION NUMBER		4. INDEX LINE NO.
AC24-010H20115		32
5. WBS ELEMENT CODE	6. WBS ELEMENT TITLE	
1.1.C.E	OSDF CONTROLS & MANAGEMENT	
7. APPROVED CP NO.		8. DATE OF CHANGES
NEW PER CP# FY01-0115-0003-00		09/05/2001
9. SYSTEM DESIGN DESCRIPTION	10. BUDGET AND REPORTING NUMBER	
CERCL/ACA	EW05H3030	

11. ELEMENT TASK DESCRIPTION

a. ELEMENTS OF COST:

Labor
Material
Subcontractors

b. TECHNICAL CONTENT:

Subcontractor services, support services, labor, material and equipment utilized by the FEMP for the control and management of the OSDF including the cell area, liners, final covers, Borrow Area, OMTA, construction laydown areas, contractor's administration area, construction water wells, clean material stockpiles haul roads, impacted material haul road, utility roads and equipment wash facilities. Refer to the OSDF Control & Management Closure Plan narrative for further information.

c. SCOPE OF WORK:

The scope of this WBS Element is further defined in control account CDG1 and includes the following:

- Stormwater Management and Erosion Control - silt fence, sediment basin, surfactant, temporary seeding (vegetation), drainage channel (clean/repair), temporary culvert installation
- Perform pumping of accumulated water from catchment areas, pond areas, equipment wash (as required), sealing of stockpiles as required
- Repair of seeded areas on permanent cap and in borrow area, surveying, control and management of temporary cover of active cells
- Install/repair barricades, temporary rad fencing, construction fencing, security fence, permanent fence
- Repair paved and unpaved roads and pads related to OSDF, including haul roads, borrow area haul road, access roads, temporary, install/repair project road signs, install/relocate traffic control measures, painting/striping of paved

U.S. DEPARTMENT OF ENERGY
WORK BREAKDOWN STRUCTURE DICTIONARY
PART II - ELEMENT DEFINITION

1. PROJECT TITLE	2. DATE OF CONTRACT
FEMP (DEFENSE)	12/01/2000

3. IDENTIFICATION NUMBER	4. INDEX LINE NO.
AC24-010H20115	32

5. WBS ELEMENT CODE	6. WBS ELEMENT TITLE
1.1.C.E	OSDF CONTROLS & MANAGEMENT

7. APPROVED CP NO.	8. DATE OF CHANGES
NEW PER CP# FY01-0115-0003-00	09/05/2001

9. SYSTEM DESIGN DESCRIPTION	10. BUDGET AND REPORTING NUMBER
CERCL/ACA	EW05H3030

11. ELEMENT TASK DESCRIPTION

roads
- Removal of sediment from catchment areas, sediment basins, repair of geotextile materials in catchment areas as required, and install straw bales
- Maintain stockpiled geotextile materials (protection)
- Winterization of trailers, repair of trailer skirting
- Maintenance/repair of construction water wells, install/repair temporary water lines, winterization of temporary water system
- Winterization of active cells, sealing of slopes, surfactant
- Dust Control

WORK SPECIFICALLY EXCLUDED

- Any alterations to the tie between the Bio-Surge Lagoon and AWWT are the responsibility of Aquifer
- Air monitoring of the OSDF during the project shutdown is budgeted and done by Environmental Monitoring
- Monitoring of leachate is the responsibility of Aquifer
- OSDF is not responsible for Stewardship activities during project shut down
- Treatment of stormwater
- Final restoration activities
- Placement of impacted material is budgeted in control account CCPL, infrastructure construction is budgeted in CBSP
- Staff labor is charged to control account CECP
- OSDF leak detection monitoring performed by the Aquifer project
- Maintenance of the leachate system is performed by the Aquifer project
- Centralized services provided by other PBSs
- Dust control on paved road

WORK SCOPE DEFINITION
(Control Account)

1. PROJECT TITLE	2. DATE	
FEMP (DEFENSE)	09/05/2001	Page 1

3. WBS ELEMENT CODE	4. WBS ELEMENT TITLE/NAME
1.1.C.E	OSDF CONTROLS & MANAGEMENT

5. PERFORMING DIV/DEPARTMENT CODE	6. ORIGINATOR NAME/PHONE	7. WBS ELEMENT MANAGER
49	JD CHIOU/648-3726	JD CHIOU

8. BUDGET AND REPORTING NUMBER	9. BUDGET TITLE
EW05H3030	ON-SITE DISPOSAL FACILITY

10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE?	11. ESTIMATED START / COMPLETION DATE
NEW PER CP# FY01-0115-0003-00	10/01 - 12/09

12. TASK IDENTIFICATION (CONTROL ACCOUNT)	13. TASK DESCRIPTION (ONE LINE)
CDG1	OSDF CONTROLS AND MANAGEMENT

14. ELEMENT TASK DESCRIPTION

a. ELEMENTS OF COST:

Labor
Material
Subcontractors

b. TECHNICAL CONTENT:

Subcontractor services, support services, labor, material and equipment utilized by the FEMP for the control and management of the OSDF, including the cell area, liners, final covers, Borrow Area, OMTA, construction laydown areas, contractor's administration area, construction water wells, clean material stockpiles, haul roads, impacted material haul road, utility roads and equipment wash facilities.

c. SCOPE OF WORK:

The scope of this WBS element is further defined in charge number CDG11 includes the following:

Stormwater Management and Erosion Control - silt fence, sediment basin, surfactant, temporary seeding (vegetation), drainage channel (clean/repair), temporary culvert installation

Perform pumping of accumulated water from catchment areas, pond areas, equipment wash (as required), sealing of stockpiles as required

Repair of seeded areas on permanent cap and in borrow area, surveying, control and management of temporary cover of active cells

Project Manager	Control Account Manager	Control Team Manager

WORK SCOPE DEFINITION
(Control Account)

1. PROJECT TITLE	2. DATE	
FEMP (DEFENSE)	09/05/2001	Page 2

3. WBS ELEMENT CODE	4. WBS ELEMENT TITLE/NAME	
1.1.C.E	OSDF CONTROLS & MANAGEMENT	
5. PERFORMING DIV/DEPARTMENT CODE	6. ORIGINATOR NAME/PHONE	7. WBS ELEMENT MANAGER
49	JD CHIOU/648-3726	JD CHIOU
8. BUDGET AND REPORTING NUMBER	9. BUDGET TITLE	
EW05H3030	ON-SITE DISPOSAL FACILITY	
10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE?		11. ESTIMATED START / COMPLETION DATE
NEW PER CP# FY01-0115-0003-00		10/01 - 12/09
12. TASK IDENTIFICATION (CONTROL ACCOUNT)	13. TASK DESCRIPTION (ONE LINE)	
CDG1	OSDF CONTROLS AND MANAGEMENT	

14. ELEMENT TASK DESCRIPTION

Install/repair barricades, temporary rad fencing, construction fencing, security fence, permanent fence

Repair paved and unpaved roads and pads related to OSDF, including haul roads, borrow area haul road, access roads, temporary, install/repair project road signs, install/relocated trafic control measures, painting/striping of paved roads

Removal of sediment from catchment areas, sediment basins, repair of geotextile materials in catchment areas as required, and install straw bales

Maintain stockpiled geotextile materials (protection)

Winterization of trailers, repair of trailer skirting

Maintenance/repair of construction water wells, install/repair temporary water lines, winterization of temporary water system

Winterization of active cells, sealing of slopes, surfactant

d. WORK SPECIFICALLY EXCLUDED:

Any alterations to the tie between the Bio-Surge Lagoon and the AWWT are the resposibility of the Aquifer Restoration Project

Air monitoring of the OSDF during the project shutdown is budgeted and done by Environmental Monitoring

Monitoring of leachate is the responsibility of the Aquifer Restoration Project

OSDF is not responsible for Stewardship activities during project shutdown

Treatment of stormwater

Final restoration activities

WORK SCOPE DEFINITION
(Control Account)

1. PROJECT TITLE	2. DATE	
FEMP (DEFENSE)	09/05/2001	Page 3

3. WBS ELEMENT CODE	4. WBS ELEMENT TITLE/NAME
1.1.C.E	OSDF CONTROLS & MANAGEMENT

5. PERFORMING DIV/DEPARTMENT CODE	6. ORIGINATOR NAME/PHONE	7. WBS ELEMENT MANAGER
49	JD CHIOU/648-3726	JD CHIOU

8. BUDGET AND REPORTING NUMBER	9. BUDGET TITLE
EW05H3030	ON-SITE DISPOSAL FACILITY

10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE?	11. ESTIMATED START / COMPLETION DATE
NEW PER CP# FY01-0115-0003-00	10/01 - 12/09

12. TASK IDENTIFICATION (CONTROL ACCOUNT)	13. TASK DESCRIPTION (ONE LINE)
CDG1	OSDF CONTROLS AND MANAGEMENT

14. ELEMENT TASK DESCRIPTION

Placement of impacted material is budgeted in control account CCPL; infrastructure construction in budgeted in CBSP

Staff labor is charged to control account CECP

OSDF leak detection monitoring performed by the Aquifer Restoration Project

Maintenance of the leachate system is performed by the Aquifer project

Centralized services provided by other PBSs

Dust control on paved road

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE	2. DATE	
FEMP (DEFENSE)	09/05/2001	Page 1

3. WBS ELEMENT CODE	4. WBS ELEMENT TITLE/NAME
1.1.C.E	OSDF CONTROLS & MANAGEMENT

5. PERFORMING DIV/DEPARTMENT CODE	6. ORIGINATOR NAME/PHONE	7. WBS ELEMENT MANAGER
49	JD CHIOU/648-3726	JD CHIOU

8. BUDGET AND REPORTING NUMBER	9. BUDGET TITLE
EW05H3030	ON-SITE DISPOSAL FACILITY

10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE?	11. ESTIMATED START / COMPLETION DATE
NEW PER CP# FY01-0015-0003-00	10/01 - 12/04

12. TASK IDENTIFICATION (WORK PACKAGE)	13. TASK DESCRIPTION (ONE LINE)
CDG11	OSDF CONTROLS AND MANAGEMENT

14. ELEMENT TASK DESCRIPTION

a. ELEMENTS OF COST:

Labor
Material
Subcontracts

b. TECHNICAL CONTENT:

Charge Number CDG11 for control and management includes: stormwater management and erosion control; pumping of accumulated water; repair of seeded areas; surveying; control and management of the temporary cover on active cells; installation and repair of barricades; repair of paved and unpaved roads and pads; installation and repair of traffic control measures; removal of sediment; and protection of stockpiled geotextile materials. Control and management also includes: winterization of facilities, the temporary water system, and active cells, including sealing of slopes and application of surfactant; and installation/maintenance/repair of construction water wells and temporary water wells. Fluor Fernald will be responsible for control and management through the 4th quarter of FY03. The OSDF Cell contractor will be responsible for control and management beginning in the first quarter FY04 through FY09.

Control and management activities shall be performed at the following areas:

The On-Site Disposal Facility is located in the northeast corner of the FEMP. The facility is located within survey coordinates N483400, N480000, E1351750, and E1350600. There are several areas adjacent to the OSDF, which support the construction of the liners, caps and impacted material placement. These are the OSDF Borrow Area, the On-Site Disposal Facility Material Transfer Area (OMTA), the future OMTA Expansion Areas, the Construction Laydown Area, the future Construction Laydown Area, the Contractor's Administration Area and the OSDF North Stockpile Area.

Project Manager	Control Account Manager	Control Team Manager

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE	2. DATE	
FEMP (DEFENSE)	09/05/2001	Page 2

3. WBS ELEMENT CODE	4. WBS ELEMENT TITLE/NAME
1.1.C.E	OSDF CONTROLS & MANAGEMENT

5. PERFORMING DIV/DEPARTMENT CODE	6. ORIGINATOR NAME/PHONE	7. WBS ELEMENT MANAGER
49	JD CHIOU/648-3726	JD CHIOU

8. BUDGET AND REPORTING NUMBER	9. BUDGET TITLE
EW05H3030	ON-SITE DISPOSAL FACILITY

10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE?	11. ESTIMATED START / COMPLETION DATE
NEW PER CP# FY01-0015-0003-00	10/01 - 12/04

12. TASK IDENTIFICATION (WORK PACKAGE)	13. TASK DESCRIPTION (ONE LINE)
CDG11	OSDF CONTROLS AND MANAGEMENT

14. ELEMENT TASK DESCRIPTION

The OSDF Borrow Area is located above the Great Miami Aquifer. The OSDF Borrow Area is south of the OSDF in an area bounded on the east by the Mid-Valley pipeline easement, on the west by the South Entrance Road, and on the south by Willey Road. The remaining area for OSDF Borrow Area development is approximately 30 acres and will be developed in seven Subareas.

The OMTA currently consists of two areas, the bulk debris area and the container area, both are located west of the OSDF. Both areas of the OMTA will be expanded as the project progresses.

The existing container area is bounded on the south by Building 77, on the west by "E" Street, on the east by the former production area fence, and it extends to the north to the former location of Building 78. The container area will be expanded to the north and to the south. It will be extended to the north to the Impacted Material Haul Road. It will be expanded to the south approximately to the south edge of the existing water tower.

The existing bulk debris area is bounded on the south by the Impacted Material Haul Road, on the north by the railyard, on the east by the OSDF and on the west by "B" Street. The bulk debris area will be expanded to the west into the area of the existing quonset huts. The expanded bulk debris area will be bounded on the north by the former production area fence, on the south by the Impacted Material Haul Road, on the east by "B" Street and on the west by stockpile SP-7.

The existing Construction Laydown Area is located west of the OSDF. It is bounded on the north by the Fire Training Road, on the south by the railyard on the east by the OSDF on the west by HWMU-1. Another construction laydown area will be build to the south of contingency OSDF Cell 8 and north of the OSDF Borrow Area.

The Contractor's Administration Area is located southeast of the OSDF. It is northeast of the OSDF Borrow Area and southeast of the former Sewage Treatment Plant.

The OSDF North Stockpile Area is located north of the OSDF. It is located south of the intersection of the new North Entrance Road and the old North Entrance Road.

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE	2. DATE	
FEMP (DEFENSE)	09/05/2001	Page 3

3. WBS ELEMENT CODE	4. WBS ELEMENT TITLE/NAME
1.1.C.E	OSDF CONTROLS & MANAGEMENT

5. PERFORMING DIV/DEPARTMENT CODE	6. ORIGINATOR NAME/PHONE	7. WBS ELEMENT MANAGER
49	JD CHIOU/648-3726	JD CHIOU

8. BUDGET AND REPORTING NUMBER	9. BUDGET TITLE
EW05H3030	ON-SITE DISPOSAL FACILITY

10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE?	11. ESTIMATED START / COMPLETION DATE
NEW PER CP# FY01-0015-0003-00	10/01 - 12/04

12. TASK IDENTIFICATION (WORK PACKAGE)	13. TASK DESCRIPTION (ONE LINE)
CDG11	OSDF CONTROLS AND MANAGEMENT

14. ELEMENT TASK DESCRIPTION

Drivers: Approved OSDF Final Design

c. SCOPE OF WORK:

Submittals and procurement associated with Control and Management activities

Stormwater Management and Erosion Control

Catchment Area Control and Management

Winterization of Access Control Trailers

Installation and Repair of Project Signs, Construction Signs, Barricades, and Temporary Construction and Radiological Control Fencing

Repair of Paved and Unpaved Roads and Pads Related to the OSDF (including haul roads, borrow area haul roads, and access roads)

Maintenance/Repair of Construction Water Wells and Temporary Water Lines

Repair of Seeded Areas on Permanent Cap and in Borrow Area

d. WORK SPECIFICALLY EXCLUDED:

Treatment of surface water, leachate

Additional costs and schedule delays that result from DOE required accountability, criticality, or other drills

Maintenance of leachate system (performed by the Aquifer Project)

Final restoration activities

WORK SCOPE DEFINITION
(Work Package)

1. PROJECT TITLE	2. DATE	
FEMP (DEFENSE)	09/05/2001	Page 4

3. WBS ELEMENT CODE	4. WBS ELEMENT TITLE/NAME
1.1.C.E	OSDF CONTROLS & MANAGEMENT

5. PERFORMING DIV/DEPARTMENT CODE	6. ORIGINATOR NAME/PHONE	7. WBS ELEMENT MANAGER
49	JD CHIOU/648-3726	JD CHIOU

8. BUDGET AND REPORTING NUMBER	9. BUDGET TITLE
EW05H3030	ON-SITE DISPOSAL FACILITY

10. ORIGINAL SCOPE? / CHANGE TO WORK SCOPE? / NEW SCOPE?	11. ESTIMATED START / COMPLETION DATE
NEW PER CP# FY01-0015-0003-00	10/01 - 12/04

12. TASK IDENTIFICATION (WORK PACKAGE)	13. TASK DESCRIPTION (ONE LINE)
CDG11	OSDF CONTROLS AND MANAGEMENT

14. ELEMENT TASK DESCRIPTION

Dust Control on paved roads

Cost increases or schedule delays caused by other than normal weather

Cost increases or schedule delays for unforeseen subsurface geotechnical conditions or resulting from the discovery of cultural resources

CCPL4 ConCover applications

SECTION 5

1.0 NARRATIVE

1. PROJECT TITLE: ON-SITE DISPOSAL FACILITY PROJECT	2. DATE: 09/10/01	3. PBS#: 03
4. WBS ELEMENT CODE: 1.1.C.E.	5. WBS ELEMENT TITLE: OSDF CONTROLS AND MANAGEMENT	
6. CAM NAME/ PHONE: JYH-DONG CHIOU/ 3726	7. CAM SIGNATURE:	
8. ORIGINAL/ CHANGE SCOPE/ PER CP#:	9.CONTROL ACCOUNT: CDG1	

SECTION 5: CDG1 – OSDF CONTROLS AND MANAGEMENT

1.0 NARRATIVE

1.1 OVERVIEW

Control and management includes stormwater management and erosion control, pumping of accumulated water, repair of seeded areas, surveying. Control and management of the temporary cover on active cells, installation and repair of barricades, repair paved and unpaved roads and pads installation and repair of traffic control measures, removal of sediment, protection of stockpiled geotextile materials is also included in this activity. Control management also includes winterization of facilities, winterization of the temporary water system, winterization of active cells which will include sealing of slopes, surfactant, installation/maintenance/repair of construction water wells, temporary water wells. Fluor Fernald will be responsible for control and management through the 4th quarter of FY03. Cell contractor will be responsible for control and management beginning in the first quarter FY04 through FY09.

Maintenance/repair of construction water wells, install/repair temporary water lines, winterization of temporary water system. Winterization of active cells, sealing of slopes and surfactant.

1.2 ASSUMPTIONS/EXCLUSIONS

1.2.1 Assumptions

- Scope and schedule based on Scenario 6.
- All work is performed with building trades personnel (Davis Bacon).

1.2.2 Exclusions

- Treatment of surface water, leachate is excluded.
- Additional costs and schedule delays that result from DOE required accountability, criticality or other drills are excluded.
- Maintenance of leachate system is performed by the Aquifer Project.

- Final restoration activities are excluded.
- Dust Control on paved roads is excluded from this control account.
- Cost increases or schedule delays caused by other than normal weather are excluded.
- Cost increases or schedule delays for unforeseen subsurface geotechnical conditions or resulting from the discovery of cultural resources are excluded.
- CCPL4 ConCover applications.

1.2.3 Government-Furnished Equipment/Services

None

1.3 DRIVERS – General

- Approved OSDF Final Design.

1.4 PROJECT PHYSICAL DESCRIPTION

Control and management activities shall be performed at the following areas:

The On-Site Disposal Facility is located in the northeast corner of the FEMP. The facility is located within survey coordinates N483400, N480000, E1351750, and E1350600. There are several areas adjacent to the OSDF, which support the construction of the liners, caps and impacted material placement. These are the OSDF Borrow Area, the On-Site Disposal Facility Material Transfer Area (OMTA), the future OMTA Expansion Areas, the Construction Laydown Area, the future Construction Laydown Area, the Contractor's Administration Area and the OSDF North Stockpile Area.

The OSDF Borrow Area is located above the Great Miami Aquifer. The OSDF Borrow Area is south of the OSDF in an area bounded on the east by the Mid-Valley pipeline easement, on the west by the South Entrance Road, and on the south by Willey Road. The remaining area for OSDF Borrow Area development is approximately 30 acres and will be developed in seven Subareas.

The OMTA currently consists of two areas, the bulk debris area and the container area, both are located west of the OSDF. Both areas of the OMTA will be expanded as the project progresses.

The existing container area is bounded on the south by Building 77, on the west by "E" Street, on the east by the former production area fence, and it extends to the north to the former location of Building 78. The container area will be expanded to the north and to

the south. It will be extended to the north to the Impacted Material Haul Road. It will be expanded to the south approximately to the south edge of the existing water tower.

The existing bulk debris area is bounded on the south by the Impacted Material Haul Road, on the north by the railyard, on the east by the OSDF and on the west by "B" Street. The bulk debris area will be expanded to the west into the area of the existing quonset huts. The expanded bulk debris area will be bounded on the north by the former production area fence, on the south by the Impacted Material Haul Road, on the east by "B" Street and on the west by stockpile SP-7.

The existing Construction Laydown Area is located west of the OSDF. It is bounded on the north by the Fire Training Road, on the south by the railyard on the east by the OSDF on the west by HWMU-1. Another construction laydown area will be build to the south of contingency OSDF Cell 8 and north of the OSDF Borrow Area.

The Contractor's Administration Area is located southeast of the OSDF. It is northeast of the OSDF Borrow Area and southeast of the form Sewage Treatment Plant.

The OSDF North Stockpile Area is located north of the OSDF. It is located south of the intersection of the new North Entrance Road and the old North Entrance Road.

1.5 PROJECT PLAN/TECHNICAL SCOPE AND QUANTIFICATION

1.5.1 CDG11 – OSDF Control and Management

1) Task #1 - Submittals and Procurement

1.1) Subtask #1 - Submittals

1.1)1 Plan/Scope - Submittals

- Prepare work plans, technical submittals and the submittal register. Work plans and technical submittals will be prepared by SDFP Engineering and supported by SDFP construction, safety and QC. Work plans include surface water management, and safe work plan.

1.1)2 Quantification - Submittals

- 2 plans, 10 work days - labor, 1 construction engineer, 1 safety and 1 QA and 1 engineer.

1.2) Subtask #2 - Procurement

1.2)1 Plan/Scope - Procurement

- Procure material, equipment, and labor. The following material, equipment, labor and services will be procured for the OSDF control management:

  Material: silt fence, construction/Rad fence, riprap for check dams, and surfactant;
  Equipment: vehicles, small tools and heavy equipment, supplies for field survey.
  Labor: Building Trades Labor, Labor Support Contractor labor,
  Subcontractor/Services: Application of surfactant.

1.2)2 Quantification - Procurement

- Intermittent procurement activities through FY03.

2) Task #2 - Stormwater Management and Erosion Control

2.1) Plan/Scope - Stormwater Management and Erosion Control

- Repair silt fence – on going through project

- Check dams, drainage, channel cleaning and repair, temporary culvert cleaning and repair and temporary seeding.

- Sediment basin cleaning and repair once a year.

- Application of surfactant one application per season. Areas: clean clay stockpiles, vegetative cover, topsoil stockpiles.

- Dust control

2.2) Quantification - Stormwater Management and Erosion Control

- Repair silt fence – on going through project will require 2 laborers for 10 hours from 1st quarter of FY04 through FY09.

- 2 laborers, 1 operator, CAT 416 backhoe 10 hrs/ month x 3 months per year. Material cost/year $3,000

- Sediment basin cleaning and repair once a year will require 1 CAT 330 Excavator, 1 Volvo A-30 truck, 2 laborers, 1 operator, and 1 teamster.

- Application of surfactant one application per season. Areas: clean clay stockpiles, vegetative cover, topsoil stockpiles will require 1 teamster – 6 days, 2 laborers – 6 days, 1 mounted hydroseeder – 6 days, pine sap surfactant – 500 gal/acre, 4:1 mix/water, $4.50 gal.

- Cell application

• Excavation area	10A 2 days
• 85,000 cy clay stockpile	2.5A
• 35,000 cy – vegetative cover	1A
• 8,000 cy – top soil	1/5A
• 12,000 cy – contouring layer	1/4A
• 3 cells – 3 x 7A	21A 4 days
• 34A – 35 acres	

3) Task #3 - Catchment Area Control and Management

3.1) Plan/Scope - Catchment Area Control and Management

- Perform pumping of accumulated water from catchment areas, pond areas, and equipment wash, removal of sediment from catchment areas, ditches, repair of geotextile material in catchment areas and install straw bales – 2 catchment areas per year.

3.2) Quantification - Catchment Area Control and Management

- Pumping of catchment areas – 20 days of pumping per year – 2 laborers, 1 teamster and 3" electric pump. 20 x 2 laborers – 4 hours per day, 1 teamster 2 hours per day

- Remove silt from catchment area 2 times per year – 5 days x 2 x 2 catchment area – 4 laborers, 1 positrac, 1 CAT 330 excavator and 3" electric pump.

4) Task #4 - Winterization of Access Control Trailers

4.1) Plan/Scope - Winterization of Access Control Trailers

- Winterization of access control trailers and repair of trailer skirting consists of the heat tracing and maintenance of the water lines under and adjacent to the access control trailers and the maintenance of the trailer blocking and skirting repair and maintenance.

4.2) Quantification - Winterization of Access Control Trailers

- 2 carpenters – 2 days, 2 fitters – 2 days per year. Miscellaneous materials, $2,000 per year.

5) Task #5 - Installation and Repair Project Signs, Construction Signs, Barricades, Temporary Rad Fencing and Construction Fencing

5.1) Plan/Scope - Installation and Repair Project Signs, Construction Signs, Barricades, Temporary Rad Fencing and Construction Fencing

- Installation and Repair Project Signs, Construction Signs, Barricades, Temporary Rad Fencing and Construction Fencing

- Maintenance and repair of construction water lines.

5.2) Quantification - Installation and Repair Project Signs, Construction Signs, Barricades, Temporary Rad Fencing and Construction Fencing

- Installation and Repair Project Signs, Construction Signs, Barricades, Temporary Rad Fencing and Construction Fencing will require 2 laborers – 2 days x 10 hours per month, material $5,000 per year.

- Maintenance and repair of construction water lines will require 1 fitter – 9 months per year/ 50 hours per week, March - November, material per year $10,000, FY04 through FY09.

6) Task #6 - Repair of Paved and Unpaved Roads and Pads Related to OSDF (including haul roads, borrow area haul roads, and access roads)

6.1) Plan/Scope - Repair of Paved and Unpaved Roads and Pads Related to OSDF (including haul roads, borrow area haul roads, and access roads)

- Repair of Paved and Unpaved Roads and pads related to OSDF, including haul roads, borrow area haul roads, and access roads

6.2) Quantification - Repair of Paved and Unpaved Roads and Pads Related to OSDF (including haul roads, borrow area haul roads, and access roads)

- CAT D-6, CAT 563 compactor, CAT 613 waterwagon, 2 operators, 1 teamster, 1 foreman 500 tons per year, #3-4 stone asphalt repairs. FY04 through FY09.

- Asphalt repairs – 300'x25' – 7,500 sq. ft asphalt repair FY05 and FY06.

7) Task #7 - Maintenance/Repair of Construction Water Wells and Temporary Water Lines

7.1) Plan/Scope - Maintenance/Repair of Construction Water Wells and Temporary Water Lines

- Maintenance/repair of construction water wells, repair temporary water lines

7.2) Quantification - Maintenance/Repair of Construction Water Wells and Temporary Water Lines

- Maintenance of construction water wells – subcontract $2,500 per year

- Maintenance and repair of temporary water lines – 15 days, 1 fitters – 9 months per year – 50 hours per week, material per year $10,000, FY04 through FY09.

8) Task #8 - Repair of Seeded Areas on Permanent Cap and in Borrow Area

8.1) Plan/Scope - Repair of Seeded Areas on Permanent Cap and in Borrow Area

- Repair of seeded areas on permanent cap and in borrow area.
- Assumption – Spring and fall repair erosion control and reseeding

8.2) Quantification - Repair of Seeded Areas on Permanent Cap and in Borrow Area

- Repair of seeded areas on permanent cap and in borrow area will require FY02 – FY09 – 5 days x 2 years, CAT D-4, CAT 330 t hoe, 2x material – ½A – seeding and fertilizing, 2 operators, 2 laborers – 5 days x 4 years

SECTION 5

3.0 MANPOWER PLANS

Manpower Planning Sheet (CR2)

MPS # 1CE01 OSDF CONTROLS & MANAGEMENT

DRIVERS	START DATE	END DATE	TOT	FY 2001 Q1	FY 2001 Q2	FY 2001 Q3	FY 2001 Q4	FY 2002 Q1	FY 2002 Q2	FY 2002 Q3	FY 2002 Q4	FY 2003 Q1	FY 2003 Q2	FY 2003 Q3	FY 2003 Q4	FY 2004 Q1	FY 2004 Q2	FY 2004 Q3	FY 2004 Q4	FY 2005 Q1	FY 2005 Q2	FY 2005 Q3	FY 2005 Q4	FY 2006 Q1	FY 2006 Q2	FY 2006 Q3	FY 2006 Q4
301 OSDF Summary Schedule	04/01/2004	12/23/2009																xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
302 OSDF CELL 1 - Cap	11/09/2000	09/28/2001		xx	xxx	xxx	xxx																				
303 OSDF CELL 2 - Cap	03/01/2005	12/30/2005																			x	xxx	xxx	xxx			
305 OSDF CELL 3 - Cap	03/01/2006	12/29/2006																							x	xxx	xxx
306 OSDF CELL 4 - Site Prep and Liner	08/15/2003	12/30/2004													xx	xxx	xxx	xxx	xxx	xxx							
308 OSDF CELL 4 - Cap	03/01/2007	12/20/2007																									
309 OSDF CELL 5 - Site Prep and Liner	08/18/2004	12/30/2005																	xx	xxx	xxx	xxx	xxx	xxx			
311 OSDF CELL 5 - Cap	03/03/2008	12/22/2008																									
312 OSDF CELL 6 - Site Prep and Liner	08/18/2005	12/29/2006																					xx	xxx	xxx	xxx	xxx
314 OSDF CELL 6 - Cap	03/02/2009	11/16/2009																									
315 OSDF Monitoring & Maintenance	10/02/2000	12/23/2009		xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
317 WASTE ACCEPTANCE ORGANIZATION	10/01/2003	09/30/2009														xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
318 Interim Cap for Cells 2&3	11/01/2001	11/21/2001						xx																			
319 OSDF CELL 7 - Liner	08/16/2006	12/31/2007																									xx
320 OSDF CELL 7 - Cap	03/02/2009	12/23/2009																									
321 OSDF Cell Placement	10/01/2003	06/30/2009														xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Environmental Safety & H Rad Tech			3.20	0	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Environmental Safety & H Safety Engineer			3.20	0	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
		Sheet Totals:	6.40	0.00	0.00	0.00	0.00	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20

Manpower Planning Sheet (CR2)

MPS # 1CE01 OSDF CONTROLS & MANAGEMENT

DRIVERS	START DATE	END DATE	FY 2007 Q1	FY 2007 Q2	FY 2007 Q3	FY 2007 Q4	FY 2008 Q1	FY 2008 Q2	FY 2008 Q3	FY 2008 Q4	FY 2009 Q1	FY 2009 Q2	FY 2009 Q3	FY 2009 Q4	FY 2010 Q1	FY 2010 Q2	FY 2010 Q3	FY 2010 Q4	FY 2011 Q1	FY 2011 Q2	FY 2011 Q3	FY 2011 Q4
301 OSDF Summary Schedule	04/01/2004	12/23/2009	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx							
302 OSDF CELL 1 - Cap	11/09/2000	09/28/2001																				
303 OSDF CELL 2 - Cap	03/01/2005	12/30/2005																				
305 OSDF CELL 3 - Cap	03/01/2006	12/29/2006	xxx																			
306 OSDF CELL 4 - Site Prep and Liner	08/15/2003	12/30/2004																				
308 OSDF CELL 4 - Cap	03/01/2007	12/20/2007		x	xxx	xxx	xxx															
309 OSDF CELL 5 - Site Prep and Liner	08/18/2004	12/30/2005																				
311 OSDF CELL 5 - Cap	03/03/2008	12/22/2008						x	xxx	xxx	xxx											
312 OSDF CELL 6 - Site Prep and Liner	08/18/2005	12/29/2006	xxx																			
314 OSDF CELL 6 - Cap	03/02/2009	11/16/2009										x	xxx	xxx	xx							
315 OSDF Monitoring & Maintenance	10/02/2000	12/23/2009	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx							
317 WASTE ACCEPTANCE ORGANIZATION	10/01/2003	09/30/2009	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx								
318 Interim Cap for Cells 2&3	11/01/2001	11/21/2001																				
319 OSDF CELL 7 - Liner	08/16/2006	12/31/2007	xxx	xxx	xxx	xxx	xxx															
320 OSDF CELL 7 - Cap	03/02/2009	12/23/2009										x	xxx	xxx	xxx							
321 OSDF Cell Placement	10/01/2003	06/30/2009	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx									
Environmental Safety & Health	Rad Tech		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	0	0	0	0	0
Environmental Safety & Health	Safety Engineer		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	0	0	0	0	0
		Sheet Totals:	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

SECTION 5

4.0 ESTIMATE

CDG11

OSDF CONTROLS & MANAGEMENT

09/07/2001
11:46 AM

PBS: OHFN03
WBS: 1.1.C.E
CTRL ACCT: CDG1
CHARGE NO: CDG11
COMMENT NO F03-029

Fluor Fernald, Inc.

ESTIMATE SUPPORT WORKSHEET
FOR ACTIVITY BASED ESTIMATING
(1 FTE EQUALS 1747 HOURS)

DATE: 05-Sep-01
PROJECT MGR: JD Chiou
CAM: JD Chiou
PREPARED BY: W. F. Fick
FISCAL YEAR: 2002-2010

Resource: FIELDSUB **FIELD SUBS** **EOC:** SUBCONTRACTORS
Res Dept: 949 **Overtime:** F04 **Class:** SUB

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Units:	0.0	0.0	0.0	459,970.0	514,060.0	622,170.0	568,080.0	459,970.0	459,970.0	57,830.0
Cum Units:	0.0	0.0	0.0	459,970.0	974,030.0	1,596,200.0	2,164,280.0	2,624,250.1	3,084,220.1	3,142,050.1
Yr Total Cost:	0	0	0	498,728	572,982	713,595	670,451	558,602	574,802	74,363
Cum Total Cost:	0	0	0	498,728	1,071,710	1,785,304	2,455,756	3,014,358	3,589,160	3,663,523

Resource: MAT300 **MATERIAL OBJCLASS300** **EOC:** MATERIAL
Res Dept: 949 **Overtime:** F02 **Class:** MAT

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Units:	0.0	15,050.0	15,050.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Units:	0.0	15,050.0	30,100.0	30,100.0	30,100.0	30,100.0	30,100.0	30,100.0	30,100.0	30,100.0
Yr Total Cost:	0	15,456	15,874	0	0	0	0	0	0	0
Cum Total Cost:	0	15,456	31,330	31,330	31,330	31,330	31,330	31,330	31,330	31,330

Resource: RADTEC **RAD TECH** **EOC:** LABOR
Res Dept: 949 **Overtime:** F02 **Class:** SAL

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Hours:	0.0	174.7	174.7	174.7	174.7	174.7	174.7	174.7	174.7	0.0
Cum Hours:	0.0	174.7	349.4	524.1	698.8	873.5	1,048.2	1,222.9	1,397.6	1,397.6
Yr Total Cost:	0	6,267	6,638	7,029	7,446	7,955	8,624	9,090	10,101	0
Cum Total Cost:	0	6,267	12,905	19,934	27,380	35,335	43,959	53,049	63,150	63,150

Resource: S&HENG **SAFETY ENGINEER** **EOC:** LABOR
Res Dept: **Overtime:** F02 **Class:** SAL

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Hours:	0.0	174.7	174.7	174.7	174.7	174.7	174.7	174.7	174.7	0.0
Cum Hours:	0.0	174.7	349.4	524.1	698.8	873.5	1,048.2	1,222.9	1,397.6	1,397.6
Yr Total Cost:	0	9,141	9,682	10,253	10,861	11,604	12,579	13,259	14,734	0
Cum Total Cost:	0	9,141	18,823	29,076	39,937	51,540	64,119	77,378	92,112	92,112

Resource: SERVSUB **SUBS** **EOC:** SUBCONTRACTORS
Res Dept: 949 **Overtime:** F02E **Class:** SUB

INCLUDES ESCALATION COSTS

09/07/2001
11:46 AM

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Units:	0.0	27,140.0	27,140.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Units:	0.0	27,140.0	54,280.0	54,280.0	54,280.0	54,280.0	54,280.0	54,280.0	54,280.0	54,280.0
Yr Total Cost:	0	27,873	28,625	0	0	0	0	0	0	0
Cum Total Cost:	0	27,873	56,498	56,498	56,498	56,498	56,498	56,498	56,498	56,498

Resource: **WISE** **WISE CONSTRUCTION** **EOC:** **SUBCONTRACTORS**
Res Dept: **949** **Overtime:** **F02** **Class:** **SUB**

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Units:	0.0	88,380.0	88,380.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cum Units:	0.0	88,380.0	176,760.0	176,760.0	176,760.0	176,760.0	176,760.0	176,760.0	176,760.0	176,760.0
Yr Total Cost:	0	90,766	93,217	0	0	0	0	0	0	0
Cum Total Cost:	0	90,766	183,983	183,983	183,983	183,983	183,983	183,983	183,983	183,983

GRAND TOTALS:

	Oct 00-Sep 01	Oct 01-Sep 02	Oct 02-Sep 03	Oct 03-Sep 04	Oct 04-Sep 05	Oct 05-Sep 06	Oct 06-Sep 07	Oct 07-Sep 08	Oct 08-Sep 09	Oct 09-Sep 10
Yr Hours:	0.0	349.4	349.4	349.4	349.4	349.4	349.4	349.4	349.4	0.0
Cum Hours:	0.0	349.4	698.8	1,048.2	1,397.6	1,747.0	2,096.4	2,445.8	2,795.2	2,795.2
Yr Total Cost:	0	149,503	154,036	516,010	591,289	733,153	691,655	580,951	599,637	74,363
Cum Total Cost:	0	149,503	303,539	819,549	1,410,838	2,143,991	2,835,645	3,416,596	4,016,233	4,090,596

CAM_____ CONTROL TEAM_____

INCLUDES ESCALATION COSTS

CDG11

Fluor Fernald, Inc.

PROJECTS CONTROLS
ESTIMATING SERVICES

May 17, 2001

PROJECT DESCRIPTION: Baseline OSDF – Controls and Management
WBS NUMBER: 1.1.C.E.
PROJECT ENGINEER: W. Zebick
ESTIMATOR: T. Wagner
ESTIMATE NUMBER: C2-01-05-11- ((W)FY02, (W)FY03, (S)FY04, (S)FY05, (S)FY06, (S)FY07, (S)FY08, (S)FY09, (S)FY10)

BASIS OF ESTIMATE

Verbal Scope	☒	P & ID's	☐	Work Plan	☐
Drawings	☐	Equipment List	☐	Site Walk	☐
Sketches	☐	Specifications	☐	Eng. Mtg.	☒
Flow Diagrams	☐	Written Scope	☒	Estimate	☐

TYPE OF ESTIMATE:

Change Proposal	☐	Government	☐
Plan/Feasibility	☐	Conceptual	☐
Construction	☐	Title I Design	☐
Budget	☒	Independent	☐

BASIS OF ESTIMATE:

These estimates were prepared for the 2001 Baseline cost of the OSDF Control and Management, Charge Number CDG11.

Work encompasses: the controls and management of the OSDF from FY02 thru FY10. Including the repair of silt fencing; check dams, drainage channel cleaning and repair, temporary seeding; sediment basin cleaning and repair once a year; application of surfactant one application per season and clean stock piles; catchment area removal of silt; winterization of access control trailers; installation and repair project signs, const. Signs, barricades, temp. rad fencing and const. Fencing; repair of paved and unpaved roads; maintenance and repair of const. water wells, maintenance repair of temp. water wells; repair seeded areas on permanent cap and borrow area; and OSDF wash equipment maintenance.

Fluor Fernald, Inc.
PROJECTS CONTROLS
ESTIMATING SERVICES

May 17, 2001

PROJECT DESCRIPTION: Baseline OSDF – Controls and Management
WBS NUMBER: 1.1.C.E.
PROJECT ENGINEER: W. Zebick
ESTIMATOR: T. Wagner
ESTIMATE NUMBER: C2-01-05-11- ((W)FY02, (W)FY03, (S)FY04, (S)FY05, (S)FY06, (S)FY07, (S)FY08, (S)FY09, (S)FY10)

ESTIMATE ASSUMPTIONS

EXECUTION:

☒ This project is to be performed on a 50-hour week, 10 hours a day.
☐ This project is to be performed on a 40-hour week, 8 hours a day.
☐ Premium time allowed.

WAGE RATES:

☒ Wage rates within this estimate are based on Project Labor Agreement rates, effective October 2000 and are considered FY01 dollars for estimating.
☐ Wage rates within this estimate are based on FF Support Contractor FSC 645 wage rates, effective January 30, 2001 and are considered FY01 dollars for estimating.
☐ Wage rates within this estimate are based on FF FTE Planning Labor Rates FY01.

ENGINEERING:

☒ N/A
☐ Engineering dollars provided by the Project Engineer.
☐ Engineering dollars have been factored in at the standard 12% of the total direct and indirect field costs as per request of Project Engineer.

CONSTRUCTION MANAGEMENT:

☒ N/A
☐ Construction Management dollars provided by the Project Engineer.
☐ Construction Management dollars have been factored in at the standard 30% of the total direct and indirect field costs as per request of Project Engineer.

PROJECT MANAGEMENT:

☒ N/A
☐ Project Management dollars provided by the Project Engineer.
☐ Project Management dollars have been factored in at the standard 30% of the total direct and indirect field costs as per request of Project Engineer.

WASTE PROGRAM MANAGEMENT:

☒ N/A

Fluor Fernald, Inc.
PROJECTS CONTROLS
ESTIMATING SERVICES

May 17, 2001

PROJECT DESCRIPTION: Baseline OSDF – Controls and Management
WBS NUMBER: 1.1.C.E.
PROJECT ENGINEER: W. Zebick
ESTIMATOR: T. Wagner
ESTIMATE NUMBER: C2-01-05-11- ((W)FY02, (W)FY03, (S)FY04, (S)FY05, (S)FY06, (S)FY07, (S)FY08, (S)FY09, (S)FY10)

☐ Waste Program Management dollars provided by the Project Engineer.

PRODUCTIVITY:

A productivity factor has been developed and applied to the unit man-hours derived from MEANS, Richardson, NECA, and or any other published estimating source. See attachment APPENDIX "A" and APPENDIX "B".

ESCALATION:

Escalation costs are excluded from the target estimate. The escalation costs are calculated within the Micro-Frame computer system according to the plan for rebaselining.

UNIT RATES:

Unit man-hours, equipment and material dollars are based on Richardson, MEANS, NECA, and or other published rates.

G & A (HO EXPENSE):

G & A are excluded from the target estimate. The G & A cost are calculated within the Micro-Frame computer system according to the plan for rebaselining.

HEALTH PHYSICS:

See attached APPENDIX "C".

RISK BUDGET:

N/A

CONTINGENCY:

N/A

Fluor Fernald, Inc.
PROJECTS CONTROLS
ESTIMATING SERVICES

May 17, 2001

PROJECT DESCRIPTION: Baseline OSDF – Controls and Management
WBS NUMBER: 1.1.C.E.
PROJECT ENGINEER: W. Zebick
ESTIMATOR: T. Wagner
ESTIMATE NUMBER: C2-01-05-11- ((W)FY02, (W)FY03, (S)FY04, (S)FY05, (S)FY06, (S)FY07, (S)FY08, (S)FY09, (S)FY10)

ESTIMATE INCLUSIONS & EXCLUSIONS

INCLUSIONS:

- Premobilization & Mobilization.
- Demobilization.
- Labor hours.
- Material dollars.
- Equipment dollars for operating expenses @ 85% efficiency, and rental on a monthly basis.
- Premium time.
- Labor resources, material dollars, construction equipment resources, duration, and quantities were provided by the project team.

EXCLUSIONS:

- Permits and fees.
- FF G & A (Home Office Expense).
- Construction Management.
- Any second tier subcontract costs.
- Project Management dollars.
- Waste Management dollars.
- Subcontractor's support and supervision.
- Subcontractor's training.

SUPPORT CONTRACTOR ESTIMATE SUMMARY SHEET

Fluor Fernald, Inc.

PROJECT:	OSDF Control & Management FY02	DATE:	17-May-01
ESTIMATE NO.:	C20105011(W)FY02	ESTIMATOR:	T. Wagner
CLIENT:	DOE	LOCATION:	FERNALD
WBS NO.:	1.1.C.E	TASK NO: - -	CDG11

	DESCRIPTION	M/H	AVG. RATE	SPT.CONT. LABOR $	FERMCO S/C / OTHER	MAT'L $	EQUIP $	TOTAL $
	OSDF Control & Mgmt FY02	2,070		$68,880		$13,800	$25,600	$39,400
SUPPORT CONT. / FF D. F. COST TOTAL		2,070	$33.28	$68,880		$13,800	$25,600	$39,400
SUPERVISION		393		$19,000				
SMALL TOOLS & CONSUMABLES								
MISC. EQUIP.RENTAL								
JOB CLEAN-UP								
SAFETY								
HEALTH PHYSICS S/C		15		$500		$400		$400
JOB SPECIFIC TRAINING								
SUPPORT CONT. INDIRECT FIELD COST TOTAL		408		$19,500				
SUPPORT CONT. TOTAL BILLABLE COSTS		2,478	$35.66	$88,380				
TEMPORARY FACILITIES								
TEMPORARY UTILITY HOOK-UP								
FD FERNALD SALES TAX						$900	$1,500	$2,400
FF INDIRECT FIELD COSTS TOTAL						$1,300	$1,500	$2,800
FF DIRECT & INDIRECT FIELD COSTS TOTAL						$15,100	$27,100	$42,200
FF and SUPT.CONT. DIRECT & INDIRECT FIELD COST TOTAL				$88,380		$15,100	$27,100	$130,580
SUB-TOTAL (BASE ESTIMATE)								$130,600
TARGET ESTIMATE	**(FY 01 DOLLARS)**							$130,600

ESTIMATE PERFORMED BY EST

SUPPORT CONTRACTOR ESTIMATE SUMMARY SHEET

PROJECT:	OSDF Control & Management FY02	DATE:	17-May-01
ESTIMATE NO.:	C20105011(W)FY02	ESTIMATOR:	T. Wagner
CLIENT:	DOE	LOCATION:	FERNALD
WBS NO.:	1.1.C.E	TASK NO.:	CDG11

FACTORS

	SUPT.CONT.	FD FERNALD					PROJECT
	LABOR $	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
DFC DOLLARS	$68,880			$13,800	$25,600	$400	$108,680
IFC COST FACTOR	1.2831	1.0000		1.0000	1.0000	--	
SALES TAX COST FACTOR	--	--	--	1.0600	1.0600	1.0600	
BOND + OVERHEAD & PROFIT COST FACTOR	N/A	N/A	N/A	N/A	N/A	N/A	
DIRECT FIELD COST FACTOR =	1.2831	1.0000		1.0600	1.0600	1.0600	
DIRECT BASE ESTIMATE $'s	$88,380			$14,628	$27,136	$424	$130,568
RISK BUDGET FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
DIRECT TARGET ESTIMATE FACTOR	1.2831	1.0000		1.0600	1.0600	1.0600	
DIRECT TARGET ESTIMATE (FY00 DOLLARS)	$88,380			$14,628	$27,136	$424	$130,568

NOTE:

1.) If there are no equipment rental costs in the "Directs" (0 $'s in I20) and the default allowance of $3.50 per MH has been used in the "indirects", input the indirect Equip. $'s in H62 and put a dash in H63. This will treat the Equip. $'s as direct cost and apply the sales tax factor. On page 3 below, insert the equipment $'s in any pay items that apply.

SUPPORT CONTRACTOR ESTIMATE SUMMARY SHEET

PROJECT:	OSDF Control & Management FY02			DATE:	17-May-01
ESTIMATE NO.:	C20105011(W)FY02	Direct Field Cost		ESTIMATOR:	T. Wagner
CLIENT:	DOE	w/FACTORS		LOCATION:	FERNALD
WBS NO.:	1.1.C.E	SUPPORT		TASK NO.:	CDG11

		SUPPORT CONT.	FF					PROJECT
PAY ITEM NO.	DESCRIPTION	LABOR $	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
	PPE						400	
							$420	$420
					-	-		
					-	-	-	
					-	-		
					-	-	-	
					-	-		
					-	-	-	
	OSDF Control & Mgmt FY02	68880			13,800	25,600		
		$88,380			$14,630	$27,140		$130,150
						-		
SUB-TOTAL -	SUPPORT CONTRACTOR	$88,380						$88,380
SUB-TOTAL -	FF				$14,630	$27,140	$420	$42,190
TOTAL DIRECT FIELD COSTS w/FACTORS								$130,570

NOTE: The above costs exclude any FD Fernald support costs that may appear on page 1 & 2, such as Waste Disposition, Engineering, Project Management, or Construction Management.

PROJECT: OSDF Control & Management FY02
ESTIMATE NO.: C20105011(W)FY02
CLIENT: DOE
WBS NO.: 1.1.C.E

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T. Wagner
LOCATION: FERNALD
TASK NO.: CDG11

	DIRECT COST SUMMARY	QTY	UNIT	MAN-HOURS			COST / UNIT				LABOR	S/C	MAT'L	EQUIP	TOTAL
				Unit	Total	Rate	Labor	S/C	Mat'l	Equip					
	OSDF Control & Mgmt FY02				2,070						$68,880		$13,770	$25,630	$108,280
	DIRECT COST SUMMARY	1	LOT		2,070	$33.28					$68,880		$13,770	$25,630	$108,280

PROJECT: OSDF Control & Management FY02
ESTIMATE NO.: C20105011(W)FY02
CLIENT: DOE
WBS NO.: 1.1.C.E

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T. Wagner
LOCATION: FERNALD
TASK NO.: CDG11

PPE LEVEL	OSDF Control & Mgmt FY02	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST / UNIT Labor	COST / UNIT S/C	COST / UNIT Mat'l	COST / UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	1. Repair Silt Fence														
D	2 Laborer@10 hr/day 2x's mo.for 1 yr	2	ea	240	480	31.81					$15,270		$2,000		$17,270
	2. Check dams, drainage, channel clearing and repair, temp. culvert cleaning														
D	2 Laborer@10 hr/day,2x's mo.for 3mo	2	ea	60	120	31.81					$3,820				$3,820
	Material allowance	1	ls						3,000				$3,000		$3,000
D	Operator and Cat416C	30	hr	1	30	39.93				25.00	$1,200			$750	$1,950
	3. Sediment basin cleaning & repair once a year.														
D	Operator and CAT330 for 2 days,10hr.	20	hr	1	20	39.93				99.74	$800			$1,990	$2,790
D	Teamster and Volvo Truck	20	hr	1	20	35.21				73.62	$700			$1,470	$2,170
D	2 Laborers for 2 days	20	hr	2	40	31.81					$1,270				$1,270
	4. Application of surfactant once a year.														
D	35 acres application		gal						4.50						
D	Hydroseeder		day							250.00					
D	Laborers 2ea. @ 6 days/10hr		hr	2		31.81									
D	Teamster 1 ea. @ 6 days/10hr		hr	1		35.21									
	5. Catchment area control & M67														
	5A: 20 days of pumping / yr														
D	Laborers 2ea. 4hrs ea day	80	hr	2	160	31.81					$5,090				$5,090
D	Teamster 1ea. 2 hrs ea day	40	hr	1	40	35.21					$1,410				$1,410
D	Electric pump 3"	200	hr						2.14				$430		$430
	5B: Remove silt from catchment 2x's/yr 5days x 2 catchments x 2 times														
D	Laborers 2ea. 4hrs ea day	80	hr	2.0	160	31.81					$5,090				$5,090
D	Operator 1ea. 4hrs ea day	80	hr	1.0	80	39.93					$3,190				$3,190
D	Electric pump 3"	80	hr						2.14				$170		$170
D	PosiTrac	80	hr						14.63				$1,170		$1,170
D	CAT330	80	hr							99.74				$7,980	$7,980

PROJECT: OSDF Control & Management FY02
ESTIMATE NO.: C20105011(W)FY02
CLIENT: DOE
WBS NO.: 1.1.C.E

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T. Wagner
LOCATION: FERNALD
TASK NO.: CDG11

PPE LEVEL	OSDF Control & Mgmt FY02	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST / UNIT Labor	COST / UNIT S/C	COST / UNIT Mat'l	COST / UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	6. Winterization of access control trailers														
D	Material allowance	1	ls						2,000				$2,000		$2,000
D	Carpenter 2ea 2days/yr	20	hr	2	40	35.60					$1,420				$1,420
	7. Installation & repair signs, barricades, & fences														
D	Material allowance	1	ls						5,000				$5,000		$5,000
D	Laborer 2ea x 2 day x 12 month	240	hr	2	480	31.81					$15,270				$15,270
	8. Repair of paved & unpaved roads														
	8A: Unpaved 500ton/yr 20 days														
D	Operator 2ea		hr	2		39.93									
D	Teamster 1ea		hr	1		35.21									
D	Foreman 1 ea		hr	1		33.11									
D	Stone #304		tn						13.00						
D	CAT D-6		hr							63.28					
D	CAT 563 compactor		hr							40.98					
D	CAT 613 ww		hr							83.19					
	8B: Asphalt 300' x 25' = 7500sf														
D	Bituminous asphalt install. 3" thick		sf					5.93							
	9. Maint/repair const wells, temp. water lines														
	9A: Maint. Const wells - Subcontract		ls					2,500							
	9B: Maint./repair temp water lines														
	Material allowance		ls						10,000						
D	Pipe fitter 1ea 15 days / yr		hr	1		41.546									

PROJECT: OSDF Control & Management FY02
ESTIMATE NO.: C20105011(W)FY02
CLIENT: DOE
WBS NO.: 1.1.C.E

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T. Wagner
LOCATION: FERNALD
TASK NO.: CDG11

PPE LEVEL	OSDF Control & Mgmt FY02	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST / UNIT Labor	COST / UNIT S/C	COST / UNIT Mat'l	COST / UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	10. Repair seeded areas on permanent cap & borrow area														
	CAT D-4	100	hr							34.73				$3,470	$3,470
	CAT 330	100	hr							99.74				$9,970	$9,970
D	Operator 2ea 5days x 2 /yr	100	hr	2	200	39.93					$7,990				$7,990
D	Laborer 2ea 5 days x 2/yr	100	hr	2	200	31.81					$6,360				$6,360
	11. OSDF equipment wash maint.														
D	Laborer 2ea : 2days x 2 seasons		hr	2		31.81									
D	Operator 1ea : 2days x 2 seasons		hr	1		39.93									
	OSDF Control & Mgmt FY02	1	LOT		2,070	$33.28					$68,880		$13,770	$25,630	$108,280

APPENDIX " A"

PROJECT:	OSDF Control & Management FY02	SITE SPECIFIC	DATE:	17-May-01
ESTIMATE NO.:	C20105011(W)FY02		ESTIMATOR:	T. Wagner
CLIENT:	DOE	EFFICIENCY / MULTIPLIER ANALYSIS	LOCATION:	FERNALD
WBS NO.:	1.1.C.E		TASK NO.:	CDG11

PERCENT OF INFLUENCE ON CHART MANHOURS

	40%	50%	60%	70%	80%	90%	100%	105%	110%	% OF INFLUENCE	WT'D VALUE	PROD. RESULT
CRAFT SKILL (NOTE 1)	POOR			FAIR			STD	V.GOOD	EXCELLENT	100.0%	12.0%	0.12
CRAFT AVAIL.(NOTE 1)		POOR		FAIR			STD			100.0%	8.0%	0.08
CLIMATE (NOTE 2)	SEVERE	ICE/SNOW			RAIN		+40 TO +85			90.0%	20.0%	0.18
PLANT ELEVATION		OVER 10,000FT			5,000' TO 10,000 FT		UNDER 5,000 FT			100.0%	5.0%	0.05
WORK SPACE				200 SF	250 SF	300 SF	350 SF			100.0%	10.0%	0.1
	<---- MULTIPLE SHIFTS-											
WORK WEEK							4-10s / 5-8s			100.0%	15.0%	0.15
50 HOUR WORK WEEK	////////// //// MULTIPLE-SHIFT ////	//////////	//////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS						
60 HOUR WORK WEEK	////////// //////////	////////// //////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS							
SHIFTWORK							OR					
2ND SHIFT					2ND SHIFT		ONE SHIFT			100.0%	3.0%	0.03
3RD SHIFT			3RD SHIFT				ONLY			100.0%	5.0%	0.05
PROJECT SIZE					400M MH AND UP	300M TO 400M MH	200M TO 300M MH	200M MH OR LESS		105.0%	4.0%	0.042
PLANT TYPE				REVAMP ONLY	REVAMP & NEW	NEW IN EXIST PLT	GRASS ROOTS			80.0%	8.0%	0.064
AREA/UNION INFLUENCE	STRONG		MILD		SOME		NONE			40.0%	10.0%	0.04
											100.0%	90.6%

NOTES.....
1. TURNOVER HAS BEEN CONSIDERED

2. FOR EXTERIOR WORK ONLY

EFFICIENCY (AS A % OFF CHART MANHOURS) 90.6%

MULTIPLIER - (TO BE APPLIED TO CHART M.H.'S TO OBTAIN SITE M.H.'S) 1.10

EFFICIENCY FACTORS

PROJECT: OSDF Control & Management FY02
ESTIMATE N C20105011(W)FY02
CLIENT: DOE
WBS NO.: 1.1.C.E

DATE: 17-May-01
ESTIMATOR: T. Wagner
LOCATION: FERNALD
TASK NO.: CDG11

Fluor Fernald, Inc.

EXAMPLE:

STANDARD CHART MANHOURS =	NET	100
EFFICIENCY FACTORS:		
* SITE SPECIFIC (SEE APPENDIX A)	10%	10.0
S/T = BASE UNIT MANHOURS		110
OVERTIME PRODUCTIVITY FACTOR	0.00%	0
(SEE DETAIL WORKSHEET BACK-UP)		110
* TASK SPECIFIC (confined space,	0.0%	0
high elevation, congestion, etc.)		110
* PPE SPECIFIC (Based on current data and estimating knowledge)		

	PPE LEVEL											
	D		Mod.'D'		Mod. "C"		C		C+		B	
PRODUCTIVITY HOURS		MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's
(AS A %) / ADD MH's	4.00%	4	28.00%	31	66.00%	73	74.00%	81	96.00%	106	110.00%	121
LTIPLIER)/TOTAL HRS	1.04	114.4	1.28	140.8	1.66	182.6	1.74	191.4	1.96	215.6	2.10	231
TOTAL MULT. * SITE PROD.	1.144		1.408		1.826		1.914		2.156		2.156	

NOTE : Use the Default Productivity Factor of 'mC' for working in a contaminated area if the Safety Level cannot be determined.

(SEE FD FERNALD ESTIMATING SERVICES REFERENCE MANUAL IM-6006 8.10)

Total hours worked in a specific PPE level divided by 10 hour working days = (PPE) ManDays to determine material cost of PPE's.
(SEE APPENDIX C - HEALTH PHYSICS)

	11.0	Man Days	14.0	Man Days	18.0	Man Days	19.0	Man Days	22.0	Man Days	23.0	Man Days

THESE EFFICIENCY FACTORS WERE APPLIED INDIVIDUALLY THROUGHOUT THE ESTIMATE AT A TASK SPECIFIC LEVEL, TO OBTAIN A MORE ACCURATE ACCOUNT OF OVERALL EFFICIENCY IMPACT DUE TO PPE REQUIREMENTS IN HANDLING CONTAMINATED AND HAZARDOUS WASTE.

EFFICIENCY FACTORS

PROJECT: OSDF Control & Management FY02
ESTIMATE N C20105011(W)FY02
CLIENT: DOE
WBS NO.: 1.1.C.E

DATE: 17-May-01
ESTIMATOR: T. Wagner
LOCATION: FERNALD
TASK NO.: CDG11

PPE MULTIPLIER DEVELOPEMENT

		D	mD	mC	C	C+	B
CREW SIZE & MAKE-UP	STANDARD	7	7	7	7	7	7
	WORKER-BUDDY	0	0	0	0	0	0
	SUPPORT TEAM	0	0	0	0	0	0
	TOTAL CREW	7	7	7	7	7	7
CREW SIZE RATIO		1.00	1.00	1.00	1.00	1.00	1.00
AVAILABLE WORK TIME FACTOR		0.96	0.78	0.70	0.70	0.68	0.68
PPE LABOR PRODUCTIVITY FACTOR		1	1	0.86	0.82	0.75	0.70
NET PRODUCTIVITY RATIO		0.96	0.78	0.602	0.574	0.51	0.476
NET PRODUCTIVITY MULTIPLIER		1.04	1.28	1.66	1.74	1.96	2.10

These factors were based on Tables 6.1 and 6.2, Moderate Work Efforts, 66F to 85F temperature of 'Hazardous Waste Cost Control' by R.A.Selg.
Modifications were made to reflect a 10 hour work day and no buddy system or support team for levels D, mC and C.
The worker-buddy and support team members, if required, may be covered under Construction Mgmt. (Rad Techs).

AVAILABLE WORK TIME FACTOR			D	mD	mC	C	C+	B
TOTAL WORK MINUTES pe	4 - 10's		600	600	600	600	600	600
ADDITN'L.SITE SAFETY MEETINGS NOT IN		QUANTITY	1	1	1	1	1	1
		MINUTES	25	25	25	25	25	25
	TOTAL		25	25	25	25	25	25
PPE DON & DOFFING		QUANTITY	0	0	3	3	3	3
(ADJUST LEVEL D per WORK PLAN)		MINUTES	0	0	15	15	20	20
	TOTAL			0	45	45	60	60
WORK BREAKS		QUANTITY	N/A	2	2	2	2	2
(ADJUST LEVEL D per WORK PLAN)		MINUTES	N/A	15	15	15	15	15
	TOTAL			30	30	30	30	30
MOBILIZATION - ROUND TRIPS		QUANTITY	N/A	4	4	4	4	4
(ADJUST LEVEL D per WORK PLAN)		MINUTES	N/A	15	15	15	15	15
	TOTAL			60	60	60	60	60
COOLDOWNS PER DAY		QUANTITY	N/A	4	4	4	4	4
** (4 OUT OF 12 MONTHS)	33.33%	MINUTES	N/A	15	15	15	15	15
	TOTAL			20	20	20	20	20
AIR TANK REPLACEMENT		QUANTITY	N/A	N/A	N/A	N/A	N/A	N/A
		MINUTES	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL								
AVAILABLE WORK TIME			575	465	420	420	405	405
AVAILABLE WORK TIME FACTOR			0.96	0.78	0.7	0.7	0.68	0.68

NOTE: Adjust 'Work Minutes per Day' basis to: 5 - 8's, or leave as 4 - 10's. Any other circumstances, over-ride the minutes per day.

** Assumption based on work performed in May, June, July & August, pro-rating cost over one year. Adjust % to individual circumstances.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: OSDF Control & Management FY02
ESTIMATE NO.: C20105011(W)FY02
CLIENT: DOE
WBS NO.: 1.1.C.E

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T. Wagner
LOCATION: FERNALD
TASK NO.: CDG11

PPE's - PERSONAL PROTECTIVE EQUIPMENT

DESCRIPTION	UNIT	UNIT COST	* NO. OF CHANGE OUTS PER WORKER PER DAY Man Days (TOTAL HOURS worked in PPE's Div. by WORK HOURS/DAY)			
PPE LEVEL C / C+		$'s	*	MAN DAYS	MAT'L.$'s	LEVEL
LAUNDRY COST per CHANGE	SET	1.96	1	0	$0	C/B
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	4.46	3	0	$0	C/B
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	4.46	3	0	$0	C/B
GLOVE LINER - DISPOSABLE	PR	0.24	3	0	$0	C/B
GLOVE, LASTEX - DISPOSABLE	PR	0.26	3	0	$0	C/B
GLOVE, WORK - DISPOSABLE	PR	1.02	3	0	$0	C/B
APR CARTRIDGES - DISPOSABLE, CLEANING	PR	9.38	3	0	$0	C/B
SUB-TOTAL				0	$0	
				$/MD =	#DIV/0!	
PPE LEVEL mC						
DRESS w/ FACE SHIELD		$'s		MAN DAYS	MAT'L.$'s	LEVEL
LAUNDRY COST per CHANGE	SET	1.96	1	0	$0	mC
LT.WT. DISPOSABLE COVERALLS W/HOOD & BOOTIES	PR	4.46	3	0	$0	mC
GLOVE LINER - DISPOSABLE	PR	0.24	3	0	$0	mC
GLOVE, LASTEX - DISPOSABLE	PR	0.26	3	0	$0	mC
GLOVE, WORK - DISPOSABLE	PR	1.02	3	0	$0	mC
SUB-TOTAL				0	$0	mC
				$/MD =	#DIV/0!	
PPE LEVEL D						
LAUNDRY COST per CHANGE	SET	1.96	1	207	$406	D

SUBCONTRACTOR REQUIRED PURCHASES	UNIT		QTY. PER WKR.	NO. OF WORKERS	MAT'L. $'s	LEVEL
RUBBER BOOT COVERS-(1)PR.PER WORKER	PR	12.70	6	0	$0	D/C/B
APR w/HALF FACE MASK - (1) PER WORKER	EA	22.30	6	0	$0	C
APR w/FULL FACE MASK - (1) PER WORKER	EA	174.00	6	0	$0	C
SCBA	EA	1894.00	2	0	$0	B
COOL VESTS	EA	137.50	6	0	$0	C/B
THERMO STRIPS	EA	50.00	6	0	$0	C/B
SUB-TOTAL					$0	C/B

Total PPE Matl $ and Laundry $	$400

(FORWARD TO PAGE 2 OF 2)

OTHER PPE's SUCH AS HARD HAT, SAFETY GLASSES/GOGGLES, STEEL TOED SAFETY SHOES, HEARING PROTECTION, ARE CONSIDERED THE SUBCONTRACTORS RESPONSIBILITY AND ARE COVERED IN HIS OVERHEAD EXPENSE. FD FERNALD SUPPLIED PPE's, SUCH AS COTTON COVERALLS, EXCHANGE OF RUBBER BOOT COVERS AND RESPIRATORS FOR CHANGEOUTS AND CLEANING OF SAME IS INCLUDED.

APPENDIX "C"

HEALTH PHYSICS

PROJECT:	OSDF Control & Management FY02		
ESTIMATE NO.:	C20105011(W)FY02	DATE:	17-May-01
CLIENT:	DOE	ESTIMATOR:	T. Wagner
WBS NO.:	1.1.C.E	LOCATION:	FERNALD
		TASK NO.:	CDG11

-MEDICAL MONITORING -

MEDICAL - PHYSICAL and IN-VIVO MONITORING - LOST WORKER TIME for RAD II WORKERS ONLY

DESC. PHYSICAL (3hrs), IN-VIVO (1hr)	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $	
BASELINE PHYSICALS	1	4	1	4	$33.28	$130	
ANNUAL PHYSICALS	0	4	1	0	$33.28	$0	
EXIT (TERMINATION) PHYSICALS (IN-VIVO)	1	1	1	1	$33.28	$30	
SUB-TOTAL						$160	

RADIATION IN-VITRO SURVEILLANCE - LOST WORKER TIME for RAD II WORKERS ONLY

DESC.	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $	
BI-MONTHLY BIOASSAY	6	1	1	6	$33.28	$200	
SUB-TOTAL						$200	

RANDOM DRUG TESTING

	TESTS	HRS	TOTAL HRS	AVG. RATE	LABOR $'s	
	1	2	2	$33.28	$100	
NO. OF WKRS. TESTED	TESTING DAYS PER YR.	AVG. NO. OF TESTS PER DAY	CHANCE/ DAY FOR TEST	NO. OF WKRS. FOR THIS ESTIMATE	CHANCES /DAY FOR TEST for this PROJECT	CONSTR WORKING DAYS
2500	226	11	0.0044	1	0.0044	226

			LABOR $'s THRU SAFETY	LABOR $'s	
WORK DELAYS CAUSED BY MONITORING	0.0%		$87,880	$0	
				LABOR $'s	
WORK DELAYS CAUSED BY RAD CHECKING	0.0%		$87,880	$0	

	TOTAL LABOR	TOTAL MAT'L.	GRAND TOTAL
TOTAL HEALTH PHYSICS - FORWARD TO ESTIMATE SUMMARY SHEET	$500	$400	$900

ACTIVITY DURATIONS

PROJECT: OSDF Control & Management FY02
ESTIMATE NO.: C20105011(W)FY02
CLIENT: DOE
WBS NO.: 1.1.C.E

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T. Wagner
LOCATION: FERNALD
TASK NO.: CDG11

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION
CONSTRUCTION:	01-May-01	01-Oct-01	01-Apr-02	30-Sep-02	12.0	MONTHS
					0	MONTHS
TOTAL					12.0	MONTHS

	DATE of EST. to MID-POINT CTIVITY DURATION	
a.	11.0	MONTHS
b.	0	MONTHS

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION
OPERATIONS					0	MONTHS

DATE of EST. to MID-POINT CTIVITY DURATION	
0	MONTHS

ACTIVITY DURATION IS USED IN DETERMINING NUMBER of WORKERS for CERCLA/SAT TRAINING HOURS and HEALTH PHYSICS COSTS.

SUPPORT CONTRACTOR ESTIMATE SUMMARY SHEET

Fluor Fernald, Inc.

PROJECT:	OSDF Control & Management FY03	DATE:	17-May-01
ESTIMATE NO.:	C20105011(W)FY03	ESTIMATOR:	T. Wagner
CLIENT:	DOE	LOCATION:	FERNALD
WBS NO.:	1.1.C.E	TASK NO:	CDG11

	DESCRIPTION	M/H	AVG. RATE	SPT.CONT. LABOR $	FERMCO S/C / OTHER	MAT'L $	EQUIP $	TOTAL $
	OSDF Control & Mgmt FY03	2,070		$68,880		$13,800	$25,600	$39,400
SUPPORT CONT. / FF D. F. COST TOTAL		2,070	$33.28	$68,880		$13,800	$25,600	$39,400
SUPERVISION		393		$19,000				
SMALL TOOLS & CONSUMABLES								
MISC. EQUIP.RENTAL								
JOB CLEAN-UP								
SAFETY								
HEALTH PHYSICS S/C		15		$500		$400		$400
JOB SPECIFIC TRAINING								
SUPPORT CONT. INDIRECT FIELD COST TOTAL		408		$19,500				
SUPPORT CONT. TOTAL BILLABLE COSTS		2,478	$35.66	$88,380				
TEMPORARY FACILITIES								
TEMPORARY UTILITY HOOK-UP								
FD FERNALD SALES TAX						$900	$1,500	$2,400
FF INDIRECT FIELD COSTS TOTAL						$1,300	$1,500	$2,800
FF DIRECT & INDIRECT FIELD COSTS TOTAL						$15,100	$27,100	$42,200
FF and SUPT.CONT. DIRECT & INDIRECT FIELD COST TOTAL				$88,380		$15,100	$27,100	$130,580
SUB-TOTAL (BASE ESTIMATE)								$130,600
TARGET ESTIMATE	**(FY 01 DOLLARS)**							$130,600

ESTIMATE PERFORMED BY EST

SUPPORT CONTRACTOR ESTIMATE SUMMARY SHEET

PROJECT: OSDF Control & Management FY03 | **DATE:** 17-May-01

ESTIMATE NO.: C20105011(W)FY03 | **ESTIMATOR:** T. Wagner

CLIENT: DOE | **LOCATION:** FERNALD

WBS NO.: 1.1.C.E | **TASK NO.:** CDG11

FACTORS

	SUPT.CONT.	FD FERNALD					PROJECT
	LABOR $	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
DFC DOLLARS	$68,880			$13,800	$25,600	$400	$108,680
IFC COST FACTOR	1.2831	1.0000		1.0000	1.0000	--	
SALES TAX COST FACTOR	--	--	--	1.0600	1.0600	1.0600	
BOND + OVERHEAD & PROFIT COST FACTOR	N/A	N/A	N/A	N/A	N/A	N/A	
DIRECT FIELD COST FACTOR =	1.2831	1.0000		1.0600	1.0600	1.0600	
DIRECT BASE ESTIMATE $'s	$88,380			$14,628	$27,136	$424	$130,568
RISK BUDGET FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
DIRECT TARGET ESTIMATE FACTOR	1.2831	1.0000		1.0600	1.0600	1.0600	
DIRECT TARGET ESTIMATE (FY00 DOLLARS)	$88,380			$14,628	$27,136	$424	$130,568

NOTE:

1.) If there are no equipment rental costs in the "Directs" (0 $'s in I20) and the default allowance of $3.50 per MH has been used in the "indirects", input the indirect Equip. $'s in H62 and put a dash in H63. This will treat the Equip. $'s as direct cost and apply the sales tax factor. On page 3 below, insert the equipment $'s in any pay items that apply.

SUPPORT CONTRACTOR ESTIMATE SUMMARY SHEET

PROJECT:	OSDF Control & Management FY03			DATE:	17-May-01
ESTIMATE NO.:	C20105011(W)FY03	Direct Field Cost		ESTIMATOR:	T. Wagner
CLIENT:	DOE	w/FACTORS		LOCATION:	FERNALD
WBS NO.:	1.1.C.E	SUPPORT		TASK NO.:	CDG11

PAY ITEM NO.	DESCRIPTION	SUPPORT CONT. LABOR $	FF LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	PROJECT TOTAL $
	PPE						400	
							$420	$420
					-	-		
					-	-	-	
					-	-		
					-	-	-	
					-	-		
					-	-	-	
	OSDF Control & Mgmt FY03	68880			13,800	25,600		
		$88,380			$14,630	$27,140		$130,150
						-		
SUB-TOTAL - SUPPORT CONTRACTOR		$88,380						$88,380
SUB-TOTAL - FF					$14,630	$27,140	$420	$42,190
TOTAL DIRECT FIELD COSTS w/FACTORS								$130,570

NOTE: The above costs exclude any FD Fernald support costs that may appear on page 1 & 2, such as Waste Disposition, Engineering, Project Management, or Construction Management.

PROJECT: OSDF Control & Management FY03
ESTIMATE NO.: C20105011(W)FY03
CLIENT: DOE
WBS NO.: 1.1.C.E

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T. Wagner
LOCATION: FERNALD
TASK NO.: CDG11

	DIRECT COST SUMMARY	QTY	UNIT	MAN-HOURS			COST / UNIT				LABOR	S/C	MAT'L	EQUIP	TOTAL
				Unit	Total	Rate	Labor	S/C	Mat'l	Equip					
	OSDF Control & Mgmt FY03				2,070						$68,880		$13,770	$25,630	$108,280
	DIRECT COST SUMMARY	1	LOT		2,070	$33.28					$68,880		$13,770	$25,630	$108,280

PROJECT: OSDF Control & Management FY03
ESTIMATE NO.: C20105011(W)FY03
CLIENT: DOE
WBS NO.: 1.1.C.E

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T. Wagner
LOCATION: FERNALD
TASK NO.: CDG11

PPE LEVEL	OSDF Control & Mgmt FY03	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST / UNIT Labor	COST / UNIT S/C	COST / UNIT Mat'l	COST / UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	1. Repair Silt Fence														
D	2 Laborer@10 hr/day 2x's mo.for 1 yr	2	ea	240	480	31.81					$15,270		$2,000		$17,270
	2. Check dams, drainage, channel clearing and repair, temp. culvert cleaning														
D	2 Laborer@10 hr/day,2x's mo.for 3mo	2	ea	60	120	31.81					$3,820				$3,820
	Material allowance	1	ls						3,000				$3,000		$3,000
D	Operator and Cat416C	30	hr	1	30	39.93				25.00	$1,200			$750	$1,950
	3. Sediment basin cleaning & repair once a year.														
D	Operator and CAT330 for 2 days,10hr.	20	hr	1	20	39.93				99.74	$800			$1,990	$2,790
D	Teamster and Volvo Truck	20	hr	1	20	35.21				73.62	$700			$1,470	$2,170
D	2 Laborers for 2 days	20	hr	2	40	31.81					$1,270				$1,270
	4. Application of surfactant once a year.														
D	35 acres application		gal						4.50						
D	Hydroseeder		day							250.00					
D	Laborers 2ea. @ 6 days/10hr		hr	2		31.81									
D	Teamster 1 ea. @ 6 days/10hr		hr	1		35.21									
	5. Catchment area control & M67														
	5A: 20 days of pumping / yr														
D	Laborers 2ea. 4hrs ea day	80	hr	2	160	31.81					$5,090				$5,090
D	Teamster 1ea. 2 hrs ea day	40	hr	1	40	35.21					$1,410				$1,410
D	Electric pump 3"	200	hr						2.14				$430		$430
	5B: Remove silt from catchment 2x's/yr 5days x 2 catchments x 2 times														
D	Laborers 2ea. 4hrs ea day	80	hr	2.0	160	31.81					$5,090				$5,090
D	Operator 1ea. 4hrs ea day	80	hr	1.0	80	39.93					$3,190				$3,190
D	Electric pump 3"	80	hr						2.14				$170		$170
D	PosiTrac	80	hr						14.63				$1,170		$1,170
D	CAT330	80	hr							99.74				$7,980	$7,980

PROJECT: OSDF Control & Management FY03
ESTIMATE NO.: C20105011(W)FY03
CLIENT: DOE
WBS NO.: 1.1.C.E

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T. Wagner
LOCATION: FERNALD
TASK NO.: CDG11

PPE LEVEL	OSDF Control & Mgmt FY03	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST / UNIT Labor	COST / UNIT S/C	COST / UNIT Mat'l	COST / UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	6. Winterization of access control trailers														
D	Material allowance	1	ls						2,000				$2,000		$2,000
D	Carpenter 2ea 2days/yr	20	hr	2	40	35.60					$1,420				$1,420
	7. Installation & repair signs, barricades, & fences														
D	Material allowance	1	ls						5,000				$5,000		$5,000
D	Laborer 2ea x 2 day x 12 month	240	hr	2	480	31.81					$15,270				$15,270
	8. Repair of paved & unpaved roads														
	8A: Unpaved 500ton/yr 20 days														
D	Operator 2ea		hr	2		39.93									
D	Teamster 1ea		hr	1		35.21									
D	Foreman 1 ea		hr	1		33.11									
D	Stone #304		tn						13.00						
D	CAT D-6		hr							63.28					
D	CAT 563 compactor		hr							40.98					
D	CAT 613 ww		hr							83.19					
	8B: Asphalt 300' x 25' = 7500sf														
D	Bituminous asphalt install. 3" thick		sf					5.93							
	9. Maint/repair const wells, temp. water lines														
	9A: Maint. Const wells - Subcontract		ls					2,500							
	9B: Maint./repair temp water lines														
	Material allowance		ls						10,000						
D	Pipe fitter 1ea 15 days / yr		hr	1		41.546									

PROJECT: OSDF Control & Management FY03
ESTIMATE NO.: C20105011(W)FY03
CLIENT: DOE
WBS NO.: 1.1.C.E

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T. Wagner
LOCATION: FERNALD
TASK NO.: CDG11

PPE LEVEL	OSDF Control & Mgmt FY03	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST / UNIT Labor	COST / UNIT S/C	COST / UNIT Mat'l	COST / UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	10. Repair seeded areas on permanent cap & borrow area														
	CAT D-4	100	hr							34.73				$3,470	$3,470
	CAT 330	100	hr							99.74				$9,970	$9,970
D	Operator 2ea 5days x 2 /yr	100	hr	2	200	39.93					$7,990				$7,990
D	Laborer 2ea 5 days x 2/yr	100	hr	2	200	31.81					$6,360				$6,360
	11. OSDF equipment wash maint.														
D	Laborer 2ea : 2days x 2 seasons		hr	2		31.81									
D	Operator 1ea : 2days x 2 seasons		hr	1		39.93									
	OSDF Control & Mgmt FY03	1	LOT		2,070	$33.28					$68,880		$13,770	$25,630	$108,280

APPENDIX "A"

PROJECT:	OSDF Control & Management FY03	DATE:	17-May-01
ESTIMATE NO.:	C20105011(W)FY03	ESTIMATOR:	T. Wagner
CLIENT:	DOE	LOCATION:	FERNALD
WBS NO.:	1.1.C.E	TASK NO.:	CDG11

SITE SPECIFIC

EFFICIENCY / MULTIPLIER ANALYSIS

PERCENT OF INFLUENCE ON CHART MANHOURS

	40%	50%	60%	70%	80%	90%	100%	105%	110%	% OF INFLUENCE	WT'D VALUE	PROD. RESULT
CRAFT SKILL (NOTE 1)	POOR			FAIR			STD	V.GOOD	EXCELLENT	100.0%	12.0%	0.12
CRAFT AVAIL.(NOTE 1)		POOR		FAIR			STD			100.0%	8.0%	0.08
CLIMATE (NOTE 2)	SEVERE	ICE/SNOW			RAIN		+40 TO +85			90.0%	20.0%	0.18
PLANT ELEVATION		OVER 10,000FT			5,000' TO 10,000 FT		UNDER 5,000 FT			100.0%	5.0%	0.05
WORK SPACE				200 SF	250 SF	300 SF	350 SF			100.0%	10.0%	0.1
	<---- MULTIPLE SHIFTS-											
WORK WEEK							4-10s / 5-8s			100.0%	15.0%	0.15
50 HOUR WORK WEEK	////////// MULTIPLE-SHIFT //////////	//////////	//////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS						
60 HOUR WORK WEEK	//////////	//////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS							
SHIFTWORK							OR					
2ND SHIFT					2ND SHIFT		ONE SHIFT ONLY			100.0%	3.0%	0.03
3RD SHIFT			3RD SHIFT							100.0%	5.0%	0.05
PROJECT SIZE					400M MH AND UP	300M TO 400M MH	200M TO 300M MH	200M MH OR LESS		105.0%	4.0%	0.042
PLANT TYPE				REVAMP ONLY	REVAMP & NEW	NEW IN EXIST PLT	GRASS ROOTS			80.0%	8.0%	0.064
AREA/UNION INFLUENCE	STRONG		MILD		SOME		NONE			40.0%	10.0%	0.04
											100.0%	90.6%

NOTES.....
1. TURNOVER HAS BEEN CONSIDERED

2. FOR EXTERIOR WORK ONLY

EFFICIENCY (AS A % OFF CHART MANHOURS) 90.6%

MULTIPLIER - (TO BE APPLIED TO CHART M.H.'S TO OBTAIN SITE M.H.'S) 1.10

EFFICIENCY FACTORS

PROJECT: OSDF Control & Management FY03
ESTIMATE N C20105011(W)FY03
CLIENT: DOE
WBS NO.: 1.1.C.E

DATE: 17-May-01
ESTIMATOR: T. Wagner
LOCATION: FERNALD
TASK NO.: CDG11

Fluor Fernald, Inc.

EXAMPLE:

STANDARD CHART MANHOURS =	NET	100
EFFICIENCY FACTORS:		
• SITE SPECIFIC (SEE APPENDIX A)	10%	10.0
S/T = BASE UNIT MANHOURS		110
OVERTIME PRODUCTIVITY FACTOR	0.00%	0
(SEE DETAIL WORKSHEET BACK-UP)		110
• TASK SPECIFIC (confined space,	0.0%	0
high elevation, congestion, etc.)		110

• PPE SPECIFIC (Based on current data and estimating knowledge)

	PPE LEVEL											
	D		Mod.'D'		Mod. "C"		C		C+		B	
PRODUCTIVITY HOURS		MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's
(AS A %) / ADD MH's	4.00%	4	28.00%	31	66.00%	73	74.00%	81	96.00%	106	110.00%	121
LTIPLIER)/TOTAL HRS	1.04	114.4	1.28	140.8	1.66	182.6	1.74	191.4	1.96	215.6	2.10	231
TOTAL MULT. * SITE PROD.	1.144		1.408		1.826		1.914		2.156		2.156	

NOTE : Use the Default Productivity Factor of 'mC' for working in a contaminated area if the Safety Level cannot be determined.

(SEE FD FERNALD ESTIMATING SERVICES REFERENCE MANUAL IM-6006 8.10)

Total hours worked in a specific PPE level divided by 10 hour working days = (PPE) ManDays to determine material cost of PPE's.
(SEE APPENDIX C - HEALTH PHYSICS)

	11.0	Man Days	14.0	Man Days	18.0	Man Days	19.0	Man Days	22.0	Man Days	23.0	Man Days

THESE EFFICIENCY FACTORS WERE APPLIED INDIVIDUALLY THROUGHOUT THE ESTIMATE AT A TASK SPECIFIC LEVEL, TO OBTAIN A MORE ACCURATE ACCOUNT OF OVERALL EFFICIENCY IMPACT DUE TO PPE REQUIREMENTS IN HANDLING CONTAMINATED AND HAZARDOUS WASTE.

EFFICIENCY FACTORS

PROJECT: OSDF Control & Management FY03
ESTIMATE N C20105011(W)FY03
CLIENT: DOE
WBS NO.: 1.1.C.E

DATE: 17-May-01
ESTIMATOR: T. Wagner
LOCATION: FERNALD
TASK NO.: CDG11

PPE MULTIPLIER DEVELOPEMENT

		D	mD	mC	C	C+	B
CREW SIZE & MAKE-UP	STANDARD	7	7	7	7	7	7
	WORKER-BUDDY	0	0	0	0	0	0
	SUPPORT TEAM	0	0	0	0	0	0
	TOTAL CREW	7	7	7	7	7	7
CREW SIZE RATIO		1.00	1.00	1.00	1.00	1.00	1.00
AVAILABLE WORK TIME FACTOR		0.96	0.78	0.70	0.70	0.68	0.68
PPE LABOR PRODUCTIVITY FACTOR		1	1	0.86	0.82	0.75	0.70
NET PRODUCTIVITY RATIO		0.96	0.78	0.602	0.574	0.51	0.476
NET PRODUCTIVITY MULTIPLIER		1.04	1.28	1.66	1.74	1.96	2.10

These factors were based on Tables 6.1 and 6.2, Moderate Work Efforts, 66F to 85F temperature of 'Hazardous Waste Cost Control' by R.A.Selg.
Modifications were made to reflect a 10 hour work day and no buddy system or support team for levels D, mC and C.
The worker-buddy and support team members, if required, may be covered under Construction Mgmt. (Rad Techs).

AVAILABLE WORK TIME FACTOR			D	mD	mC	C	C+	B
TOTAL WORK MINUTES pe	4 - 10's		600	600	600	600	600	600
ADDITN'L.SITE SAFETY MEETINGS NOT IN		QUANTITY	1	1	1	1	1	1
		MINUTES	25	25	25	25	25	25
	TOTAL		25	25	25	25	25	25
PPE DON & DOFFING		QUANTITY	0	0	3	3	3	3
(ADJUST LEVEL D per WORK PLAN)		MINUTES	0	0	15	15	20	20
	TOTAL			0	45	45	60	60
WORK BREAKS		QUANTITY	N/A	2	2	2	2	2
(ADJUST LEVEL D per WORK PLAN)		MINUTES	N/A	15	15	15	15	15
	TOTAL			30	30	30	30	30
MOBILIZATION - ROUND TRIPS		QUANTITY	N/A	4	4	4	4	4
(ADJUST LEVEL D per WORK PLAN)		MINUTES	N/A	15	15	15	15	15
	TOTAL			60	60	60	60	60
COOLDOWNS PER DAY		QUANTITY	N/A	4	4	4	4	4
** (4 OUT OF 12 MONTHS)	33.33%	MINUTES	N/A	15	15	15	15	15
	TOTAL			20	20	20	20	20
AIR TANK REPLACEMENT		QUANTITY	N/A	N/A	N/A	N/A	N/A	N/A
		MINUTES	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL								
AVAILABLE WORK TIME			575	465	420	420	405	405
AVAILABLE WORK TIME FACTOR			0.96	0.78	0.7	0.7	0.68	0.68

NOTE: Adjust 'Work Minutes per Day' basis to: 5 - 8's, or leave as 4 - 10's. Any other circumstances, over-ride the minutes per day.

** Assumption based on work performed in May, June, July & August, pro-rating cost over one year. Adjust % to individual circumstances.

HEALTH PHYSICS

PROJECT:	OSDF Control & Management FY03	DATE:	17-May-01
ESTIMATE NO.:	C20105011(W)FY03	ESTIMATOR:	T. Wagner
CLIENT:	DOE	LOCATION:	FERNALD
WBS NO.:	1.1.C.E	TASK NO.:	CDG11

Fluor Fernald, Inc.

PPE's - PERSONAL PROTECTIVE EQUIPMENT

DESCRIPTION	UNIT	UNIT COST	* NO. OF CHANGE OUTS PER WORKER PER DAY / Man Days (TOTAL HOURS worked in PPE's Div. by WORK HOURS/DAY)			
PPE LEVEL C / C+		$'s	*	MAN DAYS	MAT'L.$'s	LEVEL
LAUNDRY COST per CHANGE	SET	1.96	1	0	$0	C/B
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	4.46	3	0	$0	C/B
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	4.46	3	0	$0	C/B
GLOVE LINER - DISPOSABLE	PR	0.24	3	0	$0	C/B
GLOVE, LASTEX - DISPOSABLE	PR	0.26	3	0	$0	C/B
GLOVE, WORK - DISPOSABLE	PR	1.02	3	0	$0	C/B
APR CARTRIDGES - DISPOSABLE, CLEANING	PR	9.38	3	0	$0	C/B
SUB-TOTAL				0	$0	
				$/MD =	#DIV/0!	
PPE LEVEL mC						
DRESS w/ FACE SHIELD		$'s		MAN DAYS	MAT'L.$'s	LEVEL
LAUNDRY COST per CHANGE	SET	1.96	1	0	$0	mC
LT.WT. DISPOSABLE COVERALLS W/HOOD & BOOTIES	PR	4.46	3	0	$0	mC
GLOVE LINER - DISPOSABLE	PR	0.24	3	0	$0	mC
GLOVE, LASTEX - DISPOSABLE	PR	0.26	3	0	$0	mC
GLOVE, WORK - DISPOSABLE	PR	1.02	3	0	$0	mC
SUB-TOTAL				0	$0	mC
				$/MD =	#DIV/0!	
PPE LEVEL D						
LAUNDRY COST per CHANGE	SET	1.96	1	207	$406	D

SUBCONTRACTOR REQUIRED PURCHASES	UNIT		QTY. PER WKR.	NO. OF WORKERS	MAT'L. $'s	LEVEL
RUBBER BOOT COVERS-(1)PR.PER WORKER	PR	12.70	6	0	$0	D/C/B
APR w/HALF FACE MASK - (1) PER WORKER	EA	22.30	6	0	$0	C
APR w/FULL FACE MASK - (1) PER WORKER	EA	174.00	6	0	$0	C
SCBA	EA	1894.00	2	0	$0	B
COOL VESTS	EA	137.50	6	0	$0	C/B
THERMO STRIPS	EA	50.00	6	0	$0	C/B
SUB-TOTAL					$0	C/B

Total PPE Matl $ and Laundry $	$400

(FORWARD TO PAGE 2 OF 2)

OTHER PPE's SUCH AS HARD HAT, SAFETY GLASSES/GOGGLES, STEEL TOED SAFETY SHOES, HEARING PROTECTION, ARE CONSIDERED THE SUBCONTRACTORS RESPONSIBILITY AND ARE COVERED IN HIS OVERHEAD EXPENSE. FD FERNALD SUPPLIED PPE's, SUCH AS COTTON COVERALLS, EXCHANGE OF RUBBER BOOT COVERS AND RESPIRATORS FOR CHANGEOUTS AND CLEANING OF SAME IS INCLUDED.

HEALTH PHYSICS

PROJECT: OSDF Control & Management FY03
ESTIMATE NO.: C20105011(W)FY03
CLIENT: DOE
WBS NO.: 1.1.C.E

DATE: 17-May-01
ESTIMATOR: T. Wagner
LOCATION: FERNALD
TASK NO.: CDG11

--MEDICAL MONITORING --

MEDICAL - PHYSICAL and IN-VIVO MONITORING - LOST WORKER TIME for RAD II WORKERS ONLY

DESC. PHYSICAL (3hrs), IN-VIVO (1hr)	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $	
BASELINE PHYSICALS	1	4	1	4	$33.28	$130	
ANNUAL PHYSICALS	0	4	1	0	$33.28	$0	
EXIT (TERMINATION) PHYSICALS (IN-VIVO)	1	1	1	1	$33.28	$30	
SUB-TOTAL						$160	

RADIATION IN-VITRO SURVEILLANCE - LOST WORKER TIME for RAD II WORKERS ONLY

DESC.	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $	
BI-MONTHLY BIOASSAY	6	1	1	6	$33.28	$200	
SUB-TOTAL						$200	

RANDOM DRUG TESTING

	TESTS	HRS	TOTAL HRS	AVG. RATE	LABOR $'s	
	1	2	2	$33.28	$100	
NO. OF WKRS. TESTED	TESTING DAYS PER YR.	AVG. NO. OF TESTS PER DAY	CHANCE/ DAY FOR TEST	NO. OF WKRS. FOR THIS ESTIMATE	CHANCES /DAY FOR TEST for this PROJECT	CONSTR WORKING DAYS
2500	226	11	0.0044	1	0.0044	226

		LABOR $'s THRU SAFETY	LABOR $'s	
WORK DELAYS CAUSED BY MONITORING	0.0%	$87,880	$0	
			LABOR $'s	
WORK DELAYS CAUSED BY RAD CHECKING	0.0%	$87,880	$0	

	TOTAL LABOR	TOTAL MAT'L.	GRAND TOTAL
TOTAL HEALTH PHYSICS - FORWARD TO ESTIMATE SUMMARY SHEET	$500	$400	$900

ACTIVITY DURATIONS

PROJECT: OSDF Control & Management FY03
ESTIMATE NO.: C20105011(W)FY03
CLIENT: DOE
WBS NO.: 1.1.C.E

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T. Wagner
LOCATION: FERNALD
TASK NO.: CDG11

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION
CONSTRUCTION:	01-May-01	01-Oct-02	01-Apr-03	30-Sep-03	12.0	MONTHS
					0	MONTHS
TOTAL					12.0	MONTHS

	DATE of EST. to MID-POINT CTIVITY DURATION	
a.	23.0	MONTHS
b.	0	MONTHS

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION
OPERATIONS					0	MONTHS

DATE of EST. to MID-POINT CTIVITY DURATION	
0	MONTHS

ACTIVITY DURATION IS USED IN DETERMINING NUMBER of WORKERS for CERCLA/SAT TRAINING HOURS and HEALTH PHYSICS COSTS.

ESTIMATE SUMMARY SHEET

Fluor Fernald, Inc.

PROJECT: OSDF Control & Management FY04
ESTIMATE #: C20105011(S)FY04
CLIENT: DOE
WBS #: 1.1.C.E

DATE: 17-May-01
ESTIMATOR: T.Wagner
LOCATION: Fernald
TASK NO.: CDG11

ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	EQUIP. $	TOTAL $
OSDF Control & Management FY04	5,770		$137,310	$2,500	$46,020	$64,630	$250,460
DIRECT FIELD COSTS TOTAL	**5,770**	**$23.80**	**$137,310**	**$2,500**	**$46,020**	**$64,630**	**$250,460**
SUPERVISION - CONTRACTOR	981		$26,285				$26,285
SMALL TOOLS & CONSUMABLES	-	-	-				
MISC. EQUIP. RENTAL	-	-	-				
TEMPORARY FACILITIES							
TEMPORARY UTILITY HOOK-UP							
JOB CLEAN-UP							
PER DIEM / SUBSISTANCE	-	-	-				
HEALTH PHYSICS S/C	8		$200				$200
CERCLA - TRAINING							
GET/SITE ACCESS & JOB SPECIFIC TRAINING	72		$1,700				$1,700
PAYROLL BURDENS & BENEFITS	-	-	$94,300				$94,300
OVERHEAD & PROFIT	-	-	-	$74,600			$74,600
BOND	-	-	-	$5,800			$5,800
SALES TAX	-	-	-		$2,800	$3,900	$6,700
INDIRECT FIELD COSTS TOTAL	**1,061**		**$122,485**	**$80,400**	**$2,800**	**$3,900**	**$209,585**
DIRECT & INDIRECT FIELD COSTS TOTAL	**6,831**	**$38.03**	**$259,795**	**$82,900**	**$48,820**	**$68,530**	**$460,045**
TARGET ESTIMATE			**(FY 01 DOLLARS)**				**$460,045**

ESTIMATE PERFORMED BY ESTIMATING SERVICES

ESTIMATE SUMMARY SHEET

PROJECT: OSDF Control & Management FY04 | DATE: 17-May-01

ESTIMATE NO. C20105011(S)FY04 | ESTIMATOR: T.Wagner

CLIENT: DOE | LOCATION: Fernald

WBS NO.: 1.1.C.E | TASK NO.: CDG11

F A C T O R S

FIXED PRICE S	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
DFC DOLLARS	$137,310	$2,500	$46,020	$64,630		$250,460
IFC COST FACTOR	1.8920	--	1.0000	1.0000	--	
BOND + OVERHEAD & PROFIT COST FACTOR	1.2118	1.2118	1.2118	1.2118	1.2118	
SALES TAX	-	-	1.0600	1.0600	1.0600	
DIRECT FIELD COST FACTOR =	2.2927	1.2118	1.2845	1.2845	1.2845	
BASE ESTIMATE $'s	$314,814	$3,029	$59,112	$83,016		$459,971
BASE FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	
TARGET ESTIMATE FACTOR	2.2927	1.2118	1.2845	1.2845	1.2845	
FPS TARGET ESTIMATE (FY00 $)	$314,814	$3,029	$59,112	$83,016		$459,971

NOTE:

If there are no DFC Equip. $, enter The IFC Equip. $'s into the direct field cost TOTAL and delete IFC Factor in G65.

ESTIMATE SUMMARY SHEET

PROJECT: OSDF Control & Management FY04 | **DATE:** 17-May-01

ESTIMATE NO. C20105011(S)FY04 | **ESTIMATOR:** T.Wagner

CLIENT: DOE | **LOCATION:** Fernald

WBS NO.: 1.1.C.E | **TASK NO.:** CDG11

Direct Field Cost w/FACTORS

PAY ITEM NO.	DESCRIPTION	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
		(ASSIGN OR PRORATE PPE MAT'L.$'s)-->>					
	OSDF Control & Management FY04	137310	2500	46020	64630		
		$314,810	$3,030	$59,110	$83,020		$459,970
TOTAL DIRECT FIELD COSTS w/FACTORS		(FY01 DOLLARS)					$459,970

DETAIL ESTIMATE WORKSHEETS

Fluor Fernald, Inc.

PROJECT: OSDF Control & Management FY04
ESTIMATE NO.: C20105011(S)FY04
CLIENT: DOE
WBS NO.: 1.1.C.E

DATE: 17-May-01
ESTIMATOR: T.Wagner
LOCATION: Fernald
TASK NO.: CDG11

ITEM NO.	SUMMARY	QTY	UNIT	MAN-HOURS			COST / UNIT				LABOR	S/C	MAT'L	EQUIP	TOTAL
				Unit	Total	Rate	Labor	S/C	Mat'l	Equip					
	OSDF Control & Management FY04				5,770						$137,310	$2,500	$46,020	$64,630	$250,460
	Subtotal Direct Cost	1	LOT		5,770	$23.80					$137,310	$2,500	$46,020	$64,630	$250,460

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF Control & Management FY04
ESTIMATE NO.: C20105011(S)FY04
CLIENT: DOE
WBS NO.: 1.1.C.E

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T.Wagner
LOCATION: Fernald
TASK NO.: CDG11

PPE Level	OSDF Control & Management FY04	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	1. Repair Silt Fence														
D	2 Laborer@10 hr/day 2x's mo.for 1 yr	2	ea	240	480	20.59					$9,880		$2,000		$11,880
	2. Check dams, drainage, channel clearing and repair, temp. culvert cleaning														
D	2 Laborer@10 hr/day,2x's mo.for 3mo	2	ea	60	120	20.59					$2,470				$2,470
	Material allowance	1	ls						3,000				$3,000		$3,000
D	Operator and Cat416C	30	hr	1	30	24.57				25.00	$740			$750	$1,490
	3. Sediment basin cleaning & repair once a year.														
D	Operator and CAT330 for 2 days,10hr. e	20	hr	1	20	24.57				99.74	$490			$1,990	$2,480
D	Teamster and Volvo Truck	20	hr	1	20	20.78				73.62	$420			$1,470	$1,890
D	2 Laborers for 2 days	20	hr	2	40	20.59					$820				$820
	4. Application of surfactant once a year.														
D	35 acres application	3,500	gal						4.50				$15,750		$15,750
D	Hydroseeder	6	day							250.00				$1,500	$1,500
D	Laborers 2ea. @ 6 days/10hr	60	hr	2	120	20.59					$2,470				$2,470
D	Teamster 1 ea. @ 6 days/10hr	60	hr	1	60	20.78					$1,250				$1,250
	5. Catchment area control & M67														
	5A: 20 days of pumping / yr														
D	Laborers 2ea. 4hrs ea day	80	hr	2	160	20.59					$3,290				$3,290
D	Teamster 1ea. 2 hrs ea day	40	hr	1	40	20.78					$830				$830
D	Electric pump 3"	200	hr						2.14				$430		$430
	5B: Remove silt from catchment 2x's/yr 5days x 2 catchments x 2 times														
D	Laborers 2ea. 4hrs ea day	80	hr	2.0	160	20.59					$3,290				$3,290
D	Operator 1ea. 4hrs ea day	80	hr	1.0	80	24.57					$1,970				$1,970
D	Electric pump 3"	80	hr						2.14				$170		$170
D	PosiTrac	80	hr						14.63				$1,170		$1,170
D	CAT330	80	hr							99.74				$7,980	$7,980

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF Control & Management FY04
ESTIMATE NO.: C20105011(S)FY04
CLIENT: DOE
WBS NO.: 1.1.C.E

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T.Wagner
LOCATION: Fernald
TASK NO.: CDG11

PPE Level	OSDF Control & Management FY04	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	6. Winterization of access control trailers														
D	Material allowance	1	ls						2,000				$2,000		$2,000
D	Carpenter 2ea 2days/yr	20	hr	2	40	22.82					$910				$910
	7. Installation & repair signs, barricades, & fences														
D	Material allowance	1	ls						5,000				$5,000		$5,000
D	Laborer 2ea x 2 day x 12 month	240	hr	2	480	20.59					$9,880				$9,880
	8. Repair of paved & unpaved roads														
	8A: Unpaved 500ton/yr 20 days														
D	Operator 2ea	200	hr	2	400	24.57					$9,830				$9,830
D	Teamster 1ea	200	hr	1	200	20.78					$4,160				$4,160
D	Foreman 1 ea	200	hr	1	200	21.59					$4,320				$4,320
D	Stone #304	500	tn						13.00				$6,500		$6,500
D	CAT D-6	200	hr							63.28				$12,660	$12,660
D	CAT 563 compactor	200	hr							40.98				$8,200	$8,200
D	CAT 613 ww	200	hr							83.19				$16,640	$16,640
	8B: Asphalt 300' x 25' = 7500sf														
D	Bituminous asphalt install. 3" thick														
	9. Maint/repair const wells, temp. water lines														
	9A: Maint. Const wells - Subcontract	1	ls					2,500				$2,500			$2,500
	9B: Maint./repair temp water lines														
	Material allowance	1	ls						10,000				$10,000		$10,000
D	Pipe fitter 1ea 50 hrs/wk for 1 yr	2,600	hr	1	2,600	26.40					$68,630				$68,630

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF Control & Management FY04
ESTIMATE NO.: C20105011(S)FY04
CLIENT: DOE
WBS NO.: 1.1.C.E

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T.Wagner
LOCATION: Fernald
TASK NO.: CDG11

ITEM NO.	OSDF Control & Management FY04	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	10. Repair seeded areas on permanent cap & borrow area														
	CAT D-4	100	hr							34.73				$3,470	$3,470
	CAT 330	100	hr							99.74				$9,970	$9,970
D	Operator 2ea 5days x 2 /yr	100	hr	2	200	24.57					$4,910				$4,910
D	Laborer 2ea 5 days x 2/yr	100	hr	2	200	20.59					$4,120				$4,120
	11. OSDF equipment wash maint.														
D	Laborer 2ea : 2days x 2 seasons	40	hr	2	80	20.59					$1,650				$1,650
D	Operator 1ea : 2days x 2 seasons	40	hr	1	40	24.57					$980				$980
	Subtotal Direct Cost	1	LOT		5,770	$23.80					137,310	2,500	46,020	64,630	$250,460

APPENDIX " A"

PROJECT: OSDF Control & Management FY04
ESTIMATE NOC20105011(S)FY04
CLIENT: DOE
WBS NO.: 1.1.C.E

SITE SPECIFIC

EFFICIENCY / MULTIPLIER ANALYSIS

DATE: 17-May-01
ESTIMATOR: T.Wagner
LOCATION: Fernald
TASK NO.: CDG11

	PERCENT OF INFLUENCE ON CHART MANHOURS											
	40%	50%	60%	70%	80%	90%	100%	105%	110%	% OF INFLUENCE	WT'D VALUE	PROD. RESULT
CRAFT SKILL (NOTE 1)	POOR			FAIR			STD	V.GOOD	XCELLENT	100.0%	12.0%	0.12
CRAFT AVAIL.(NOTE 1)		POOR		FAIR			STD			100.0%	8.0%	0.08
CLIMATE (NOTE 2)	SEVERE	ICE/SNOW			RAIN		+40 TO +85			90.0%	20.0%	0.18
PLANT ELEVATION		OVER 10,000FT			5,000' TO 10,000 FT		UNDER 5,000 FT			100.0%	5.0%	0.05
WORK SPACE				200 SF	250 SF	300 SF	350 SF			100.0%	10.0%	0.1
	<---- MULTIPLE SHIFTS-											
WORK WEEK							4-10s / 5-8s			100.0%	15.0%	0.15
50 HOUR WORK WEEK	////////// ////// MULTIPLE-SHIFT //////////	//////////	//////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS				0.0%	0.0%	0
60 HOUR WORK WEEK	////////// //////////	////////// //////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS					0.0%	0.0%	0
SHIFTWORK							OR					
2ND SHIFT					2ND SHIFT		ONE SHIFT			100.0%	3.0%	0.03
3RD SHIFT			3RD SHIFT				ONLY			100.0%	5.0%	0.05
PROJECT SIZE					400M MH AND UP	300M TO 400M MH	200M TO 300M MH	200M MH OR LESS		100.0%	4.0%	0.04
PLANT TYPE				REVAMP ONLY	REVAMP & NEW	NEW IN EXIST PLT	GRASS ROOTS			90.0%	8.0%	0.072
AREA/UNION INFLUENCE	STRONG		MILD		SOME		NONE			40.0%	10.0%	0.04
											100.0%	91.2%

NOTES.....
1. TURNOVER HAS BEEN CONSIDERED

2. FOR EXTERIOR WORK ONLY

EFFICIENCY (AS A % OFF CHART MANHOURS) 91.2%

MULTIPLIER - (TO BE APPLIED TO CHART M.H.'S TO OBTAIN SITE M.H.'S) 1.10

EFFICIENCY FACTORS

PROJECT: OSDF Control & Management FY04
ESTIMATE NO. C20105011(S)FY04
CLIENT: DOE
WBS NO.: 1.1.C.E

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T.Wagner
LOCATION: Fernald
TASK NO.: CDG11

EXAMPLE:

STANDARD CHART MANHOURS =	NET	100
EFFICIENCY FACTORS:		
* SITE SPECIFIC (SEE APPENDIX A)		10.0
S/T = BASE UNIT MANHOURS		110
OVERTIME PRODUCTIVITY FACTOR	0.00%	0
(SEE DETAIL WORKSHEET BACK-UP)		110
* TASK SPECIFIC (confined space,	0.0%	0
high elevation, congestion, etc.)		110

* PPE SPECIFIC (Based on current data and estimating knowledge)

	PPE LEVEL									
	D		Mod.'D'		Mod. "C"		C		C+	
PRODUCTIVITY HOURS		MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's
(AS A %) / ADD MH's	4.00%	4	28.00%	31	66.00%	73	74.00%	81	96.00%	106
(AS A MULTIPLIER)/TOTAL HRS	1.04	114.4	1.28	140.8	1.66	182.6	1.74	191.4	1.96	215.6
TOTAL MULTIPLIER w/SITE PROD.	1.144		1.408		1.826		1.914		2.156	

NOTE : Use the Default Productivity Factor of 'mC' for working in a contaminated area if the Safety Level cannot be determined.

(SEE FD FERNALD ESTIMATING SERVICES REFERENCE MANUAL IM-6006 8.10)

Total hours worked in a specific PPE level divided by 10 hour working days = (PPE) ManDays to determine material cost of PPE's.
(SEE APPENDIX C - HEALTH PHYSICS)

11.0	Man Days	14.0	Man Days	18.0	Man Days	19.0	Man Days	22.0	Man Days

THESE EFFICIENCY FACTORS WERE APPLIED INDIVIDUALLY THROUGHOUT THE ESTIMATE AT A TASK SPECIFIC LEVEL, TO OBTAIN A MORE ACCURATE ACCOUNT OF OVERALL EFFICIENCY IMPACT DUE TO PPE REQUIREMENTS IN HANDLING CONTAMINATED AND HAZARDOUS WASTE.

EFFICIENCY FACTORS

PROJECT: OSDF Control & Management FY04
ESTIMATE NO. C20105011(S)FY04
CLIENT: DOE
WBS NO.: 1.1.C.E

DATE: 17-May-01
ESTIMATOR: T.Wagner
LOCATION: Fernald
TASK NO.: CDG11

PPE MULTIPLIER DEVELOPEMENT

		D	mD	mC	C	C+
CREW SIZE & MAKE-UP	STANDARD	7	7	7	7	7
	WORKER-BUDDY	0	0	0	0	0
	SUPPORT TEAM	0	0	0	0	0
	TOTAL CREW	7	7	7	7	7
CREW SIZE RATIO		1.00	1.00	1.00	1.00	1.00
AVAILABLE WORK TIME FACTOR		0.96	0.78	0.7	0.7	0.68
PPE LABOR PRODUCTIVITY FACTOR		1	1	0.86	0.82	0.75
NET PRODUCTIVITY RATIO		0.96	0.78	0.602	0.574	0.51
NET PRODUCTIVITY MULTIPLIER		**1.04**	**1.28**	**1.66**	**1.74**	**1.96**

These factors were based on Tables 6.1 and 6.2, Moderate Work Efforts, 66F to 85F temperature of 'Hazardous Waste Cost Control' by R.A.Selg.
Modifications were made to reflect a 10 hour work day and no buddy system or support team for levels D, mC and C.
The worker-buddy and support team members, if required, may be covered under Construction Mgmt. (Rad Techs).

AVAILABLE WORK TIME FACTOR		D	mD	mC	C	C+
TOTAL WORK MINUTES per D 4 - 10's		600	600	600	600	600
ADDITN'L.SITE SAFETY MEETINGS NOT INCLD. IN BA	QUANTITY	1	1	1	1	1
	MINUTES	25	25	25	25	25
TOTAL		25	25	25	25	25
PPE DON & DOFFING	QUANTITY	0	0	3	3	3
(ADJUST LEVEL D per WORK PLAN)	MINUTES	0	0	15	15	20
TOTAL			0	45	45	60
WORK BREAKS	QUANTITY	N/A	2	2	2	2
(ADJUST LEVEL D per WORK PLAN)	MINUTES	N/A	15	15	15	15
TOTAL			30	30	30	30
MOBILIZATION - ROUND TRIPS	QUANTITY	N/A	4	4	4	4
(ADJUST LEVEL D per WORK PLAN)	MINUTES	N/A	15	15	15	15
TOTAL			60	60	60	60
COOLDOWNS PER DAY	QUANTITY	N/A	4	4	4	4
** (4 OUT OF 12 MONTHS) 33.33%	MINUTES	N/A	15	15	15	15
TOTAL			20	20	20	20
AIR TANK REPLACEMENT	QUANTITY	N/A	N/A	N/A	N/A	N/A
	MINUTES	N/A	N/A	N/A	N/A	N/A
TOTAL						
AVAILABLE WORK TIME		575	465	420	420	405
AVAILABLE WORK TIME FACTOR		**0.96**	**0.78**	**0.7**	**0.7**	**0.68**

NOTE: Adjust 'Work Minutes per Day' basis to: 5 - 8's, or leave as 4 - 10's . Any other circumstances, over-ride the minutes per day.

** Assumption based on work performed in May, June, July & August, pro-rating cost over one year. Adjust % to individual circumstances.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: OSDF Control & Management FY04
ESTIMATE NO. C20105011(S)FY04
CLIENT: DOE
WBS NO.: 1.1.C.E

DATE: 17-May-01
ESTIMATOR: T.Wagner
LOCATION: Fernald
TASK NO.: CDG11

Fluor Fernald, Inc.

PPE"s - PERSONAL PROTECTIVE EQUIPMENT

DESCRIPTION	UNIT	UNIT COST	* NO. OF CHANGE OUTS PER WORKER PER DAY				
			Man Days (TOTAL HOURS worked in PPE's Div. by WORK HOURS / DAY)				
PPE LEVEL C / C+ / B : F/HF MASK w/RESP.&CART.			*	MAN DAYS	MAT'L.$'s	PPE LEVEL	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	(DOUBLE PPE)
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	C / C+	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	C / C+	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	C / C+	
APR CARTRIDGES - DISPOSABLE	PR	$6.98	3	0	$0	C / C+	
SUB-TOTAL		$17.42	3		$0		
				$/MD =	$0.00		

PPE LEVEL mC : FULL DRESS w/ FACE SHIELD				MAN DAYS	MAT'L.$'s	PPE LEVEL
LT.WT. DISPOSABLE COVERALLS W/HOOD & BOOTIES	PR	$4.46	3	0	$0	mC
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	mC
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	mC
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	mC
SUB-TOTAL		$5.98	3		$0	
				$/MD =	$0.00	

SUBCONTRACTOR REQUIRED PURCHASES			QTY. PER WKR.	NO. OF WORKERS	MAT'L.$'s	PPE LEVEL
RUBBER BOOT COVERS-(1)PR.PER WORKER	PR	$12.70	6	0	$0	D/C/B
APR w/HALF FACE MASK - (1) PER WORKER	EA	$22.30	6	0	$0	C
APR w/FULL FACE MASK - (1) PER WORKER	EA	$174.00	6	0	$0	C
SCBA	EA	$1,894.00	2	0	$0	B
COOL VESTS	EA	$137.50	6	0	$0	C/B
THERMO STRIPS	EA	$50.00	6	0	$0	C/B
SUB-TOTAL					$0	

	MAT'L.$'s
TOTAL PPE's =	$0

(FORWARD TO PAGE 2 OF 2)

OTHER PPE's SUCH AS HARD HAT, SAFETY GLASSES/GOGGLES, STEEL TOED SAFETY SHOES, HEARING PROTECTION, ARE CONSIDERED THE SUBCONTRACTORS RESPONSIBILITY AND ARE COVERED IN HIS OVERHEAD EXPENSE.
COSTS OF FD FERNALD SUPPLIED PPE's, SUCH AS COTTON COVERALLS, EXCHANGE OF RUBBER BOOT COVERS AND RESPIRATORS FOR CHANGEOUTS AND CLEANING OF SAME IS INCURRED BY FD FERNALD AND COSTS ARE NOT INCLUDED AS PART OF PROJECT COSTS AT THIS TIME.

HEALTH PHYSICS

PROJECT: OSDF Control & Management FY04
ESTIMATE NO. C20105011(S)FY04
CLIENT: DOE
WBS NO.: 1.1.C.E

DATE: 17-May-01
ESTIMATOR: T.Wagner
LOCATION: Fernald
TASK NO.: CDG11

--MEDICAL MONITORING --

MEDICAL - PHYSICAL and IN-VIVO MONITORING - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION PHYSICAL (3hrs), IN-VIVO (1hr)	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $	
BASELINE PHYSICALS	1	4	0	0	$23.80	$0	
ANNUAL PHYSICALS	1	4	0	0	$23.80	$0	
EXIT (TERMINATION) PHYSICALS (IN-VIVO)	1	1	0	0	$23.80	$0	
SUB-TOTAL						$0	

RADIATION IN-VITRO SURVEILLANCE - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $	
BI-MONTHLY BIOASSAY	6	1	0	0	$23.80	$0	
SUB-TOTAL						$0	

RANDOM DRUG TESTING

	TESTS	HRS	TOTAL HOURS	AVG. RATE	LABOR $'s	
	4	2	8	$23.80	$200	
NO. OF WKRS. TESTED	TESTING DAYS PER YR.	AVG. NO. OF TESTS PER DAY	CHANCE/ DAY FOR TEST	NO. OF WKRS. FOR THIS ESTIMATE	CHANCES /DAY FOR TEST FOR PROJECT	CONSTR WORKING DAYS
2340	226	10	0.0042735	4	0.0171	227

			LABOR $'s THRU SAFETY	LABOR $'s	
WORK DELAYS CAUSED BY MONITORING	0.0%		$163,595	$0	
				LABOR $'s	
WORK DELAYS CAUSED BY RAD CHECKING	0.0%		$163,595	$0	

	TOTAL LABOR	TOTAL MAT'L.	GRAND TOTAL
TOTAL HEALTH PHYSICS	$200	$0	$200

(FORWARD TO ESTIMATE SUMMARY SHEET)

ACTIVITY DURATIONS

Fluor Fernald, Inc.

PROJECT: OSDF Control & Management FY04
ESTIMATE NO. C20105011(S)FY04
CLIENT: DOE
WBS NO.: 1.1.C.E

DATE: 17-May-01
ESTIMATOR: T.Wagner
LOCATION: Fernald
TASK NO.: CDG11

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION
CONSTRUCTION:	01-May-01	01-Oct-03	31-Mar-04	30-Sep-04	12.0	MONTHS
					0	MONTHS
TOTAL					12.0	MONTHS

	DATE of EST. to MID-POINT CTIVITY DURATION	
a.	35.0	MONTHS
b.	0	MONTHS

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION
OPERATIONS					0	MONTHS

DATE of EST. to MID-POINT CTIVITY DURATION	
0	MONTHS

ACTIVITY DURATION IS USED IN DETERMINING NUMBER of WORKERS for CERCLA/SAT TRAINING HOURS and HEALTH PHYSICS COSTS.

ESTIMATE SUMMARY SHEET

Fluor Fernald, Inc.

PROJECT: OSDF Control & Management FY05
ESTIMATE #: C20105011(S)FY05
CLIENT: DOE
WBS #: 1.1.C.E

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	EQUIP. $	TOTAL $
OSDF Control & Management FY05	5,770		$137,310	$46,996	$46,020	$64,630	$294,956
DIRECT FIELD COSTS TOTAL	5,770	$23.80	$137,310	$46,996	$46,020	$64,630	$294,956
SUPERVISION - CONTRACTOR	981		$26,285				$26,285
SMALL TOOLS & CONSUMABLES	-	-	-				
MISC. EQUIP. RENTAL	-	-	-				
TEMPORARY FACILITIES							
TEMPORARY UTILITY HOOK-UP							
JOB CLEAN-UP							
PER DIEM / SUBSISTANCE	-	-	-				
HEALTH PHYSICS S/C	8		$200				$200
CERCLA - TRAINING							
GET/SITE ACCESS & JOB SPECIFIC TRAINING	72		$1,700				$1,700
PAYROLL BURDENS & BENEFITS	-	-	$94,300				$94,300
OVERHEAD & PROFIT	-	-	-	$83,500			$83,500
BOND	-	-	-	$6,500			$6,500
SALES TAX	-	-	-		$2,800	$3,900	$6,700
INDIRECT FIELD COSTS TOTAL	1,061		$122,485	$90,000	$2,800	$3,900	$219,185
DIRECT & INDIRECT FIELD COSTS TOTAL	6,831	$38.03	$259,795	$136,996	$48,820	$68,530	$514,141
TARGET ESTIMATE				(FY 01 DOLLARS)			$514,141

ESTIMATE PERFORMED BY ESTIMATING SERVICES

ESTIMATE SUMMARY SHEET

PROJECT: OSDF Control & Management FY05 | DATE: 17-May-01

ESTIMATE NO. C20105011(S)FY05 | ESTIMATOR: T.WAGNER

CLIENT: DOE | LOCATION: Fernald

WBS NO.: 1.1.C.E | TASK NO.: CDG11

FACTORS

FIXED PRICE S	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
DFC DOLLARS	$137,310	$46,996	$46,020	$64,630		$294,956
IFC COST FACTOR	1.8920	--	1.0000	1.0000	--	
BOND + OVERHEAD & PROFIT COST FACTOR	1.2122	1.2122	1.2122	1.2122	1.2122	
SALES TAX	-	-	1.0600	1.0600	1.0600	
DIRECT FIELD COST FACTOR =	2.2935	1.2122	1.2849	1.2849	1.2849	
BASE ESTIMATE $'s	$314,922	$56,968	$59,132	$83,045		$514,067
BASE FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	
TARGET ESTIMATE FACTOR	2.2935	1.2122	1.2849	1.2849	1.2849	
FPS TARGET ESTIMATE (FY00 $)	$314,922	$56,968	$59,132	$83,045		$514,067

NOTE:

If there are no DFC Equip. $, enter The IFC Equip. $'s into the direct field cost TOTAL and delete IFC Factor in G65.

ESTIMATE SUMMARY SHEET

PROJECT: OSDF Control & Management FY05 | DATE: 17-May-01

ESTIMATE NO. C20105011(S)FY05 | ESTIMATOR: T.WAGNER

CLIENT: DOE | LOCATION: Fernald

WBS NO.: 1.1.C.E | TASK NO.: CDG11

Direct Field Cost w/FACTORS

PAY ITEM NO.	DESCRIPTION	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
		(ASSIGN OR PRORATE PPE MAT'L.$'s)-->>					
	OSDF Control & Management FY05	137310	46996	46020	64630		
		$314,920	$56,970	$59,130	$83,040		$514,060
TOTAL DIRECT FIELD COSTS w/FACTORS		(FY01 DOLLARS)					$514,060

DETAIL ESTIMATE WORKSHEETS

Fluor Fernald, Inc.

PROJECT: OSDF Control & Management FY05
ESTIMATE NO.: C20105011(S)FY05
CLIENT: DOE
WBS NO.: 1.1.C.E

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

ITEM NO.	SUMMARY	QTY	UNIT	MAN-HOURS			COST / UNIT				LABOR	S/C	MAT'L	EQUIP	TOTAL
				Unit	Total	Rate	Labor	S/C	Mat'l	Equip					
	OSDF Control & Management FY05				5,770						$137,310	$46,996	$46,020	$64,630	$294,956
	Subtotal Direct Cost	1	LOT		5,770	$23.80					$137,310	$46,996	$46,020	$64,630	$294,956

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF Control & Management FY05
ESTIMATE NO.: C20105011(S)FY05
CLIENT: DOE
WBS NO.: 1.1.C.E

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

PPE Level	OSDF Control & Management FY05	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	1. Repair Silt Fence														
D	2 Laborer@10 hr/day 2x's mo.for 1 yr	2	ea	240	480	20.59					$9,880		$2,000		$11,880
	2. Check dams, drainage, channel clearing and repair, temp. culvert cleaning														
D	2 Laborer@10 hr/day,2x's mo.for 3mo	2	ea	60	120	20.59					$2,470				$2,470
	Material allowance	1	ls						3,000				$3,000		$3,000
D	Operator and Cat416C	30	hr	1	30	24.57				25.00	$740			$750	$1,490
	3. Sediment basin cleaning & repair once a year.														
D	Operator and CAT330 for 2 days,10hr. e	20	hr	1	20	24.57				99.74	$490			$1,990	$2,480
D	Teamster and Volvo Truck	20	hr	1	20	20.78				73.62	$420			$1,470	$1,890
D	2 Laborers for 2 days	20	hr	2	40	20.59					$820				$820
	4. Application of surfactant once a year.														
D	35 acres application	3,500	gal						4.50				$15,750		$15,750
D	Hydroseeder	6	day							250.00				$1,500	$1,500
D	Laborers 2ea. @ 6 days/10hr	60	hr	2	120	20.59					$2,470				$2,470
D	Teamster 1 ea. @ 6 days/10hr	60	hr	1	60	20.78					$1,250				$1,250
	5. Catchment area control & M67														
	5A: 20 days of pumping / yr														
D	Laborers 2ea. 4hrs ea day	80	hr	2	160	20.59					$3,290				$3,290
D	Teamster 1ea. 2 hrs ea day	40	hr	1	40	20.78					$830				$830
D	Electric pump 3"	200	hr						2.14				$430		$430
	5B: Remove silt from catchment 2x's/yr 5days x 2 catchments x 2 times														
D	Laborers 2ea. 4hrs ea day	80	hr	2.0	160	20.59					$3,290				$3,290
D	Operator 1ea. 4hrs ea day	80	hr	1.0	80	24.57					$1,970				$1,970
D	Electric pump 3"	80	hr						2.14				$170		$170
D	PosiTrac	80	hr						14.63				$1,170		$1,170
D	CAT330	80	hr							99.74				$7,980	$7,980

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF Control & Management FY05
ESTIMATE NO.: C20105011(S)FY05
CLIENT: DOE
WBS NO.: 1.1.C.E

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

ITEM NO.	OSDF Control & Management FY05	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	6. Winterization of access control trailers														
D	Material allowance	1	ls						2,000				$2,000		$2,000
D	Carpenter 2ea 2days/yr	20	hr	2	40	22.82					$910				$910
	7. Installation & repair signs, barricades, & fences														
D	Material allowance	1	ls						5,000				$5,000		$5,000
D	Laborer 2ea x 2 day x 12 month	240	hr	2	480	20.59					$9,880				$9,880
	8. Repair of paved & unpaved roads														
	8A: Unpaved 500ton/yr 20 days														
D	Operator 2ea	200	hr	2	400	24.57					$9,830				$9,830
D	Teamster 1ea	200	hr	1	200	20.78					$4,160				$4,160
D	Foreman 1 ea	200	hr	1	200	21.59					$4,320				$4,320
D	Stone #304	500	tn						13.00				$6,500		$6,500
D	CAT D-6	200	hr							63.28				$12,660	$12,660
D	CAT 563 compactor	200	hr							40.98				$8,200	$8,200
D	CAT 613 ww	200	hr							83.19				$16,640	$16,640
	8B: Asphalt 300' x 25' = 7500sf														
D	Bituminous asphalt install. 3" thick	7,500	sf					5.93				$44,496			$44,496
	9. Maint/repair const wells, temp. water lines														
	9A: Maint. Const wells - Subcontract	1	ls					2,500				$2,500			$2,500
	9B: Maint./repair temp water lines														
	Material allowance	1	ls						10,000				$10,000		$10,000
D	Pipe fitter 1ea 50 hrs/wk for 1 yr	2,600	hr	1	2,600	26.40					$68,630				$68,630

DETAIL ESTIMATE WORKSHEETS

Fluor Fernald, Inc.

PROJECT: OSDF Control & Management FY05
ESTIMATE NO.: C20105011(S)FY05
CLIENT: DOE
WBS NO.: 1.1.C.E

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

ITEM NO.	OSDF Control & Management FY05	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	10. Repair seeded areas on permanent cap & borrow area														
	CAT D-4	100	hr							34.73				$3,470	$3,470
	CAT 330	100	hr							99.74				$9,970	$9,970
D	Operator 2ea 5days x 2 /yr	100	hr	2	200	24.57					$4,910				$4,910
D	Laborer 2ea 5 days x 2/yr	100	hr	2	200	20.59					$4,120				$4,120
	11. OSDF equipment wash maint.														
D	Laborer 2ea : 2days x 2 seasons	40	hr	2	80	20.59					$1,650				$1,650
D	Operator 1ea : 2days x 2 seasons	40	hr	1	40	24.57					$980				$980
	Subtotal Direct Cost	1	LOT		5,770	$23.80					137,310	46,996	46,020	64,630	$294,956

APPENDIX " A"

PROJECT: OSDF Control & Management FY05
ESTIMATE NOC20105011(S)FY05
CLIENT: DOE
WBS NO.: 1.1.C.E

SITE SPECIFIC

EFFICIENCY / MULTIPLIER ANALYSIS

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

PERCENT OF INFLUENCE ON CHART MANHOURS

	40%	50%	60%	70%	80%	90%	100%	105%	110%	% OF NFLUENCE	WT'D VALUE	PROD. RESULT
CRAFT SKILL (NOTE 1)	POOR			FAIR			STD	V.GOOD	XCELLENT	100.0%	12.0%	0.12
CRAFT AVAIL.(NOTE 1)		POOR		FAIR			STD			100.0%	8.0%	0.08
CLIMATE (NOTE 2)	SEVERE	ICE/SNOW			RAIN		+40 TO +85			90.0%	20.0%	0.18
PLANT ELEVATION		OVER 10,000FT			5,000' TO 10,000 FT		UNDER 5,000 FT			100.0%	5.0%	0.05
WORK SPACE				200 SF	250 SF	300 SF	350 SF			100.0%	10.0%	0.1
	<---- MULTIPLE SHIFTS-											
WORK WEEK							4-10s / 5-8s			100.0%	15.0%	0.15
50 HOUR WORK WEEK	////////// ////// MULTIPLE-SHIFT //////	//////////	//////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS				0.0%	0.0%	0
60 HOUR WORK WEEK	////////// //////////	////////// //////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS					0.0%	0.0%	0
SHIFTWORK							OR					
2ND SHIFT					2ND SHIFT		ONE SHIFT			100.0%	3.0%	0.03
3RD SHIFT			3RD SHIFT				ONLY			100.0%	5.0%	0.05
PROJECT SIZE					400M MH AND UP	300M TO 400M MH	200M TO 300M MH	200M MH OR LESS		100.0%	4.0%	0.04
PLANT TYPE				REVAMP ONLY	REVAMP & NEW	NEW IN EXIST PLT	GRASS ROOTS			90.0%	8.0%	0.072
AREA/UNION INFLUENCE	STRONG		MILD		SOME		NONE			40.0%	10.0%	0.04
											100.0%	91.2%

NOTES.....
1. TURNOVER HAS BEEN CONSIDERED

2. FOR EXTERIOR WORK ONLY

EFFICIENCY (AS A % OFF CHART MANHOURS) 91.2%

MULTIPLIER - (TO BE APPLIED TO CHART M.H.'S TO OBTAIN SITE M.H.'S) 1.10

EFFICIENCY FACTORS

PROJECT: OSDF Control & Management FY05
ESTIMATE NO. C20105011(S)FY05
CLIENT: DOE
WBS NO.: 1.1.C.E

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

EXAMPLE:

STANDARD CHART MANHOURS =	NET	100
EFFICIENCY FACTORS:		
• SITE SPECIFIC (SEE APPENDIX A)	[redacted]	10.0
S/T = BASE UNIT MANHOURS		110
OVERTIME PRODUCTIVITY FACTOR	0.00%	0
(SEE DETAIL WORKSHEET BACK-UP)		110
• TASK SPECIFIC (confined space,	0.0%	0
high elevation, congestion, etc.)		110
• PPE SPECIFIC (Based on current data and estimating knowledge)		

	PPE LEVEL									
	D		Mod.'D'		Mod. "C"		C		C+	
PRODUCTIVITY HOURS		MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's
(AS A %) / ADD MH's	4.00%	4	28.00%	31	66.00%	73	74.00%	81	96.00%	106
(AS A MULTIPLIER)/TOTAL HRS	1.04	114.4	1.28	140.8	1.66	182.6	1.74	191.4	1.96	215.6
TOTAL MULTIPLIER w/SITE PROD.	1.144		1.408		1.826		1.914		2.156	

NOTE : Use the Default Productivity Factor of 'mC' for working in a contaminated area if the Safety Level cannot be determined.

(SEE FD FERNALD ESTIMATING SERVICES REFERENCE MANUAL IM-6006 8.10)

Total hours worked in a specific PPE level divided by 10 hour working days = (PPE) ManDays to determine material cost of PPE's.
(SEE APPENDIX C - HEALTH PHYSICS)

11.0	Man Days	14.0	Man Days	18.0	Man Days	19.0	Man Days	22.0	Man Days

THESE EFFICIENCY FACTORS WERE APPLIED INDIVIDUALLY THROUGHOUT THE ESTIMATE AT A TASK SPECIFIC LEVEL, TO OBTAIN A MORE ACCURATE ACCOUNT OF OVERALL EFFICIENCY IMPACT DUE TO PPE REQUIREMENTS IN HANDLING CONTAMINATED AND HAZARDOUS WASTE.

EFFICIENCY FACTORS

PROJECT: OSDF Control & Management FY05
ESTIMATE NO. C20105011(S)FY05
CLIENT: DOE
WBS NO.: 1.1.C.E

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

PPE MULTIPLIER DEVELOPEMENT

		D	mD	mC	C	C+
CREW SIZE & MAKE-UP	STANDARD	7	7	7	7	7
	WORKER-BUDDY	0	0	0	0	0
	SUPPORT TEAM	0	0	0	0	0
	TOTAL CREW	7	7	7	7	7
CREW SIZE RATIO		1.00	1.00	1.00	1.00	1.00
AVAILABLE WORK TIME FACTOR		0.96	0.78	0.7	0.7	0.68
PPE LABOR PRODUCTIVITY FACTOR		1	1	0.86	0.82	0.75
NET PRODUCTIVITY RATIO		0.96	0.78	0.602	0.574	0.51
NET PRODUCTIVITY MULTIPLIER		**1.04**	**1.28**	**1.66**	**1.74**	**1.96**

These factors were based on Tables 6.1 and 6.2, Moderate Work Efforts, 66F to 85F temperature of 'Hazardous Waste Cost Control' by R.A.Selg.
Modifications were made to reflect a 10 hour work day and no buddy system or support team for levels D, mC and C.
The worker-buddy and support team members, if required, may be covered under Construction Mgmt. (Rad Techs).

AVAILABLE WORK TIME FACTOR		D	mD	mC	C	C+
TOTAL WORK MINUTES per D 4 - 10's		600	600	600	600	600
ADDITN'L.SITE SAFETY MEETINGS NOT INCLD. IN BA	QUANTITY	1	1	1	1	1
	MINUTES	25	25	25	25	25
TOTAL		25	25	25	25	25
PPE DON & DOFFING	QUANTITY	0	0	3	3	3
(ADJUST LEVEL D per WORK PLAN)	MINUTES	0	0	15	15	20
TOTAL			0	45	45	60
WORK BREAKS	QUANTITY	N/A	2	2	2	2
(ADJUST LEVEL D per WORK PLAN)	MINUTES	N/A	15	15	15	15
TOTAL			30	30	30	30
MOBILIZATION - ROUND TRIPS	QUANTITY	N/A	4	4	4	4
(ADJUST LEVEL D per WORK PLAN)	MINUTES	N/A	15	15	15	15
TOTAL			60	60	60	60
COOLDOWNS PER DAY	QUANTITY	N/A	4	4	4	4
** (4 OUT OF 12 MONTHS) 33.33%	MINUTES	N/A	15	15	15	15
TOTAL			20	20	20	20
AIR TANK REPLACEMENT	QUANTITY	N/A	N/A	N/A	N/A	N/A
	MINUTES	N/A	N/A	N/A	N/A	N/A
TOTAL						
AVAILABLE WORK TIME		575	465	420	420	405
AVAILABLE WORK TIME FACTOR		**0.96**	**0.78**	**0.7**	**0.7**	**0.68**

NOTE: Adjust 'Work Minutes per Day' basis to: 5 - 8's, or leave as 4 - 10's. Any other circumstances, over-ride the minutes per day.

** Assumption based on work performed in May, June, July & August, pro-rating cost over one year. Adjust % to individual circumstances.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: OSDF Control & Management FY05
ESTIMATE NO. C20105011(S)FY05
CLIENT: DOE
WBS NO.: 1.1.C.E

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

PPE"s - PERSONAL PROTECTIVE EQUIPMENT

DESCRIPTION	UNIT	UNIT COST	* NO. OF CHANGE OUTS PER WORKER PER DAY Man Days (TOTAL HOURS worked in PPE's Div. by WORK HOURS / DAY)				
PPE LEVEL C / C+ / B : F/HF MASK w/RESP.&CART.			*	MAN DAYS	MAT'L.$'s	PPE LEVEL	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	(DOUBLE PPE)
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	C / C+	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	C / C+	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	C / C+	
APR CARTRIDGES - DISPOSABLE	PR	$6.98	3	0	$0	C / C+	
SUB-TOTAL		$17.42	3		$0		
				$/MD =	$0.00		

PPE LEVEL mC : FULL DRESS w/ FACE SHIELD				MAN DAYS	MAT'L.$'s	PPE LEVEL
LT.WT. DISPOSABLE COVERALLS W/HOOD & BOOTIES	PR	$4.46	3	0	$0	mC
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	mC
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	mC
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	mC
SUB-TOTAL		$5.98	3		$0	
				$/MD =	$0.00	

SUBCONTRACTOR REQUIRED PURCHASES			QTY. PER WKR.	NO. OF WORKERS	MAT'L.$'s	PPE LEVEL
RUBBER BOOT COVERS-(1)PR.PER WORKER	PR	$12.70	6	0	$0	D/C/B
APR w/HALF FACE MASK - (1) PER WORKER	EA	$22.30	6	0	$0	C
APR w/FULL FACE MASK - (1) PER WORKER	EA	$174.00	6	0	$0	C
SCBA	EA	$1,894.00	2	0	$0	B
COOL VESTS	EA	$137.50	6	0	$0	C/B
THERMO STRIPS	EA	$50.00	6	0	$0	C/B
SUB-TOTAL					$0	

	MAT'L.$'s
TOTAL PPE's =	$0

(FORWARD TO PAGE 2 OF 2)

OTHER PPE's SUCH AS HARD HAT, SAFETY GLASSES/GOGGLES, STEEL TOED SAFETY SHOES, HEARING PROTECTION, ARE CONSIDERED THE SUBCONTRACTORS RESPONSIBILITY AND ARE COVERED IN HIS OVERHEAD EXPENSE.
COSTS OF FD FERNALD SUPPLIED PPE's, SUCH AS COTTON COVERALLS, EXCHANGE OF RUBBER BOOT COVERS AND RESPIRATORS FOR CHANGEOUTS AND CLEANING OF SAME IS INCURRED BY FD FERNALD AND COSTS ARE NOT INCLUDED AS PART OF PROJECT COSTS AT THIS TIME.

HEALTH PHYSICS

PROJECT: OSDF Control & Management FY05
ESTIMATE NO. C20105011(S)FY05
CLIENT: DOE
WBS NO.: 1.1.C.E

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

--MEDICAL MONITORING --

MEDICAL - PHYSICAL and IN-VIVO MONITORING - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION PHYSICAL (3hrs), IN-VIVO (1hr)	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $	
BASELINE PHYSICALS	1	4	0	0	$23.80	$0	
ANNUAL PHYSICALS	0	4	0	0	$23.80	$0	
EXIT (TERMINATION) PHYSICALS (IN-VIVO)	1	1	0	0	$23.80	$0	
SUB-TOTAL						$0	

RADIATION IN-VITRO SURVEILLANCE - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $	
BI-MONTHLY BIOASSAY	6	1	0	0	$23.80	$0	
SUB-TOTAL						$0	

RANDOM DRUG TESTING

	TESTS	HRS	TOTAL HOURS	AVG. RATE	LABOR $'s	
	4	2	8	$23.80	$200	
NO. OF WKRS. TESTED	TESTING DAYS PER YR.	AVG. NO. OF TESTS PER DAY	CHANCE/ DAY FOR TEST	NO. OF WKRS. FOR THIS ESTIMATE	CHANCES /DAY FOR TEST FOR PROJECT	CONSTR WORKING DAYS
2340	226	10	0.0042735	4	0.0171	226

			LABOR $'s THRU SAFETY	LABOR $'s	
WORK DELAYS CAUSED BY MONITORING	0.0%		$163,595	$0	
				LABOR $'s	
WORK DELAYS CAUSED BY RAD CHECKING	0.0%		$163,595	$0	

	TOTAL LABOR	TOTAL MAT'L.	GRAND TOTAL
TOTAL HEALTH PHYSICS	$200	$0	$200

(FORWARD TO ESTIMATE SUMMARY SHEET)

ACTIVITY DURATIONS

Fluor Fernald, Inc.

PROJECT: OSDF Control & Management FY05
ESTIMATE NO. C20105011(S)FY05
CLIENT: DOE
WBS NO.: 1.1.C.E

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION
CONSTRUCTION:	01-May-01	01-Oct-04	01-Apr-05	30-Sep-05	12.0	MONTHS
					0	MONTHS
TOTAL					12.0	MONTHS

	DATE of EST. to MID-POINT CTIVITY DURATION	
a.	47.1	MONTHS
b.	0	MONTHS

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION
OPERATIONS					0	MONTHS

DATE of EST. to MID-POINT CTIVITY DURATION	
0	MONTHS

ACTIVITY DURATION IS USED IN DETERMINING NUMBER of WORKERS for CERCLA/SAT TRAINING HOURS and HEALTH PHYSICS COSTS.

ESTIMATE SUMMARY SHEET

Fluor Fernald, Inc.

PROJECT: OSDF Control & Management FY06
ESTIMATE #: C20105011(S)FY06
CLIENT: DOE
WBS #: 1.1.C.E

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	EQUIP. $	TOTAL $
OSDF Control & Management FY06	6,962		$184,490	$46,996	$46,020	$64,630	$342,136
DIRECT FIELD COSTS TOTAL	**6,962**	**$26.50**	**$184,490**	**$46,996**	**$46,020**	**$64,630**	**$342,136**
SUPERVISION - CONTRACTOR	1,183		$34,914				$34,914
SMALL TOOLS & CONSUMABLES	-	-	-				
MISC. EQUIP. RENTAL	-	-	-				
TEMPORARY FACILITIES							
TEMPORARY UTILITY HOOK-UP							
JOB CLEAN-UP							
PER DIEM / SUBSISTANCE	-	-	-				
HEALTH PHYSICS S/C	11		$300				$300
CERCLA - TRAINING							
GET/SITE ACCESS & JOB SPECIFIC TRAINING	90		$2,400				$2,400
PAYROLL BURDENS & BENEFITS	-	-	$126,600				$126,600
OVERHEAD & PROFIT	-	-	-	$101,300			$101,300
BOND	-	-	-	$7,900			$7,900
SALES TAX	-	-	-		$2,800	$3,900	$6,700
INDIRECT FIELD COSTS TOTAL	**1,285**		**$164,214**	**$109,200**	**$2,800**	**$3,900**	**$280,114**
DIRECT & INDIRECT FIELD COSTS TOTAL	**8,246**	**$42.29**	**$348,704**	**$156,196**	**$48,820**	**$68,530**	**$622,250**
TARGET ESTIMATE			**(FY 01 DOLLARS)**				**$622,250**

ESTIMATE PERFORMED BY ESTIMATING SERVICES

ESTIMATE SUMMARY SHEET

PROJECT: OSDF Control & Management FY06 | DATE: 17-May-01

ESTIMATE NO. C20105011(S)FY06 | FACTORS | ESTIMATOR: T.WAGNER

CLIENT: DOE | LOCATION: Fernald

WBS NO.: 1.1.C.E | TASK NO.: CDG11

FIXED PRICE S	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
DFC DOLLARS	$184,490	$46,996	$46,020	$64,630		$342,136
IFC COST FACTOR	1.8901	--	1.0000	1.0000	--	
BOND + OVERHEAD & PROFIT COST FACTOR	1.2128	1.2128	1.2128	1.2128	1.2128	
SALES TAX	-	-	1.0600	1.0600	1.0600	
DIRECT FIELD COST FACTOR =	2.2924	1.2128	1.2856	1.2856	1.2856	
BASE ESTIMATE $'s	$422,924	$56,999	$59,164	$83,089		$622,176
BASE FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	
TARGET ESTIMATE FACTOR	2.2924	1.2128	1.2856	1.2856	1.2856	
FPS TARGET ESTIMATE (FY00 $)	$422,924	$56,999	$59,164	$83,089		$622,176

NOTE:

If there are no DFC Equip. $, enter The IFC Equip. $'s into the direct field cost TOTAL and delete IFC Factor in G65.

ESTIMATE SUMMARY SHEET

PROJECT: OSDF Control & Management FY06 | **DATE:** 12-Sep-01

ESTIMATE NO. C20105011(S)FY06 | **ESTIMATOR:** T.WAGNER

CLIENT: DOE | **LOCATION:** Fernald

WBS NO.: 1.1.C.E | **TASK NO.:** CDG11

Direct Field Cost w / F A C T O R S

PAY ITEM NO.	DESCRIPTION	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
		(ASSIGN OR PRORATE PPE MAT'L.$'s)-->>					
	OSDF Control & Management FY06	184490	46996	46020	64630		
		$422,920	$57,000	$59,160	$83,090		$622,170
TOTAL DIRECT FIELD COSTS w/FACTORS		(FY01 DOLLARS)					$622,170

DETAIL ESTIMATE WORKSHEETS

Fluor Fernald, Inc.

PROJECT: OSDF Control & Management FY06
ESTIMATE NO.: C20105011(S)FY06
CLIENT: DOE
WBS NO.: 1.1.C.E

DATE: 12-Sep-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

ITEM NO.	SUMMARY	QTY	UNIT	MAN-HOURS			COST / UNIT				LABOR	S/C	MAT'L	EQUIP	TOTAL
				Unit	Total	Rate	Labor	S/C	Mat'l	Equip					
	OSDF Control & Management FY06				6,962						$184,490	$46,996	$46,020	$64,630	$342,136
	Subtotal Direct Cost	1	LOT		6,962	$26.50					$184,490	$46,996	$46,020	$64,630	$342,136

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF Control & Management FY06
ESTIMATE NO.: C20105011(S)FY06
CLIENT: DOE
WBS NO.: 1.1.C.E

Fluor Fernald, Inc.

DATE: 12-Sep-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

PPE Level	OSDF Control & Management FY06	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	1. Repair Silt Fence														
D	2 Laborer@10 hr/day 2x's mo.for 1 yr	2	ea	240	480	20.59					$9,880		$2,000		$11,880
	2. Check dams, drainage, channel clearing and repair, temp. culvert cleaning														
D	2 Laborer@10 hr/day,2x's mo.for 3mo	2	ea	60	120	20.59					$2,470				$2,470
	Material allowance	1	ls						3,000				$3,000		$3,000
D	Operator and Cat416C	30	hr	1	30	24.57				25.00	$740			$750	$1,490
	3. Sediment basin cleaning & repair once a year.														
D	Operator and CAT330 for 2 days,10hr. e	20	hr	1	20	24.57				99.74	$490			$1,990	$2,480
D	Teamster and Volvo Truck	20	hr	1	20	20.78				73.62	$420			$1,470	$1,890
D	2 Laborers for 2 days	20	hr	2	40	20.59					$820				$820
	4. Application of surfactant once a year.														
D	35 acres application	3,500	gal						4.50				$15,750		$15,750
D	Hydroseeder	6	day							250.00				$1,500	$1,500
D	Laborers 2ea. @ 6 days/10hr	60	hr	2	120	20.59					$2,470				$2,470
D	Teamster 1 ea. @ 6 days/10hr	60	hr	1	60	20.78					$1,250				$1,250
	5. Catchment area control & M67														
	5A: 20 days of pumping / yr														
D	Laborers 2ea. 4hrs ea day	80	hr	2	160	20.59					$3,290				$3,290
D	Teamster 1ea. 2 hrs ea day	40	hr	1	40	20.78					$830				$830
D	Electric pump 3"	200	hr						2.14				$430		$430
	5B: Remove silt from catchment 2x's/yr 5days x 2 catchments x 2 times														
D	Laborers 2ea. 4hrs ea day	80	hr	2.0	160	20.59					$3,290				$3,290
D	Operator 1ea. 4hrs ea day	80	hr	1.0	80	24.57					$1,970				$1,970
D	Electric pump 3"	80	hr						2.14				$170		$170
D	PosiTrac	80	hr						14.63				$1,170		$1,170
D	CAT330	80	hr							99.74				$7,980	$7,980

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF Control & Management FY06
ESTIMATE NO.: C20105011(S)FY06
CLIENT: DOE
WBS NO.: 1.1.C.E

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

ITEM NO.	OSDF Control & Management FY06	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	6. Winterization of access control trailers														
D	Material allowance	1	ls						2,000				$2,000		$2,000
D	Carpenter 2ea 2days/yr	20	hr	2	40	22.82					$910				$910
	7. Installation & repair signs, barricades, & fences														
D	Material allowance	1	ls						5,000				$5,000		$5,000
D	Laborer 2ea x 2 day x 12 month	240	hr	2	480	20.59					$9,880				$9,880
	8. Repair of paved & unpaved roads														
	8A: Unpaved 500ton/yr 20 days														
D	Operator 2ea	200	hr	2	400	24.57					$9,830				$9,830
D	Teamster 1ea	200	hr	1	200	20.78					$4,160				$4,160
D	Foreman 1 ea	200	hr	1	200	21.59					$4,320				$4,320
D	Stone #304	500	tn						13.00				$6,500		$6,500
D	CAT D-6	200	hr							63.28				$12,660	$12,660
D	CAT 563 compactor	200	hr							40.98				$8,200	$8,200
D	CAT 613 ww	200	hr							83.19				$16,640	$16,640
	8B: Asphalt 300' x 25' = 7500sf														
D	Bituminous asphalt install. 3" thick	7,500	sf					5.93				$44,496			$44,496
	9. Maint/repair const wells, temp. water lines														
	9A: Maint. Const wells - Subcontract	1	ls					2,500				$2,500			$2,500
	9B: Maint./repair temp water lines														
	Material allowance	1	ls						10,000				$10,000		$10,000
D	Pipe fitter 1ea 50 hrs/wk for 1 yr	2,600	hr	1	2,600	26.40					$68,630				$68,630
D	Pipe fitter 1ea 50 hrs/wk for 5.5 mo. for 2nd shift during 3rd & 4th Qtr.	1,192	hr	1	1,192	39.59					$47,180				$47,180

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF Control & Management FY06
ESTIMATE NO.: C20105011(S)FY06
CLIENT: DOE
WBS NO.: 1.1.C.E

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

ITEM NO.	OSDF Control & Management FY06	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	10. Repair seeded areas on permanent cap & borrow area														
	CAT D-4	100	hr							34.73				$3,470	$3,470
	CAT 330	100	hr							99.74				$9,970	$9,970
D	Operator 2ea 5days x 2 /yr	100	hr	2	200	24.57					$4,910				$4,910
D	Laborer 2ea 5 days x 2/yr	100	hr	2	200	20.59					$4,120				$4,120
	11. OSDF equipment wash maint.														
D	Laborer 2ea : 2days x 2 seasons	40	hr	2	80	20.59					$1,650				$1,650
D	Operator 1ea : 2days x 2 seasons	40	hr	1	40	24.57					$980				$980
	Subtotal Direct Cost	1	LOT		6,962	$26.50					184,490	46,996	46,020	64,630	$342,136

APPENDIX " A"

PROJECT: OSDF Control & Management FY06
ESTIMATE NOC20105011(S)FY06
CLIENT: DOE
WBS NO.: 1.1.C.E

SITE SPECIFIC

EFFICIENCY / MULTIPLIER ANALYSIS

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

PERCENT OF INFLUENCE ON CHART MANHOURS

	40%	50%	60%	70%	80%	90%	100%	105%	110%	% OF NFLUENCE	WT'D VALUE	PROD. RESULT
CRAFT SKILL (NOTE 1)	POOR			FAIR			STD	V.GOOD	XCELLENT	100.0%	12.0%	0.12
CRAFT AVAIL.(NOTE 1)		POOR		FAIR			STD			100.0%	8.0%	0.08
CLIMATE (NOTE 2)	SEVERE	ICE/SNOW			RAIN		+40 TO +85			90.0%	20.0%	0.18
PLANT ELEVATION		OVER 10,000FT			5,000' TO 10,000 FT		UNDER 5,000 FT			100.0%	5.0%	0.05
WORK SPACE				200 SF	250 SF	300 SF	350 SF			100.0%	10.0%	0.1
	<---- MULTIPLE SHIFTS-											
WORK WEEK							4-10s / 5-8s			100.0%	15.0%	0.15
50 HOUR WORK WEEK	////////// //// MULTIPLE-SHIFT ////	//////////	//////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS				0.0%	0.0%	0
60 HOUR WORK WEEK	////////// //////////	////////// //////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS					0.0%	0.0%	0
SHIFTWORK 2ND SHIFT 3RD SHIFT			 3RD SHIFT		2ND SHIFT		OR ONE SHIFT ONLY			 100.0% 100.0%	 3.0% 5.0%	 0.03 0.05
PROJECT SIZE					400M MH AND UP	300M TO 400M MH	200M TO 300M MH	200M MH OR LESS		100.0%	4.0%	0.04
PLANT TYPE				REVAMP ONLY	REVAMP & NEW	NEW IN EXIST PLT	GRASS ROOTS			90.0%	8.0%	0.072
AREA/UNION INFLUENCE	STRONG		MILD		SOME		NONE			40.0%	10.0%	0.04
											100.0%	91.2%

NOTES.....
1. TURNOVER HAS BEEN CONSIDERED

2. FOR EXTERIOR WORK ONLY

EFFICIENCY (AS A % OFF CHART MANHOURS) 91.2%

MULTIPLIER - (TO BE APPLIED TO CHART M.H.'S TO OBTAIN SITE M.H.'S) 1.10

EFFICIENCY FACTORS

PROJECT: OSDF Control & Management FY06
ESTIMATE NO. C20105011(S)FY06
CLIENT: DOE
WBS NO.: 1.1.C.E

Fluor Fernald, Inc.

DATE: 12-Sep-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

EXAMPLE:

STANDARD CHART MANHOURS =	NET	100
EFFICIENCY FACTORS:		
* SITE SPECIFIC (SEE APPENDIX A)	[redacted]	10.0
S/T = BASE UNIT MANHOURS		110
OVERTIME PRODUCTIVITY FACTOR	0.00%	0
(SEE DETAIL WORKSHEET BACK-UP)		110
* TASK SPECIFIC (confined space, high elevation, congestion, etc.)	0.0%	0
		110

* PPE SPECIFIC (Based on current data and estimating knowledge)

	PPE LEVEL									
	D		Mod.'D'		Mod. "C"		C		C+	
PRODUCTIVITY HOURS		MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's
(AS A %) / ADD MH's	4.00%	4	28.00%	31	66.00%	73	74.00%	81	96.00%	106
(AS A MULTIPLIER)/TOTAL HRS	1.04	114.4	1.28	140.8	1.66	182.6	1.74	191.4	1.96	215.6
TOTAL MULTIPLIER w/SITE PROD.	1.144		1.408		1.826		1.914		2.156	

NOTE : Use the Default Productivity Factor of 'mC' for working in a contaminated area if the Safety Level cannot be determined.

(SEE FD FERNALD ESTIMATING SERVICES REFERENCE MANUAL IM-6006 8.10)

Total hours worked in a specific PPE level divided by 10 hour working days = (PPE) ManDays to determine material cost of PPE's. (SEE APPENDIX C - HEALTH PHYSICS)

11.0	Man Days	14.0	Man Days	18.0	Man Days	19.0	Man Days	22.0	Man Days

THESE EFFICIENCY FACTORS WERE APPLIED INDIVIDUALLY THROUGHOUT THE ESTIMATE AT A TASK SPECIFIC LEVEL, TO OBTAIN A MORE ACCURATE ACCOUNT OF OVERALL EFFICIENCY IMPACT DUE TO PPE REQUIREMENTS IN HANDLING CONTAMINATED AND HAZARDOUS WASTE.

EFFICIENCY FACTORS

PROJECT: OSDF Control & Management FY06
ESTIMATE NO. C20105011(S)FY06
CLIENT: DOE
WBS NO.: 1.1.C.E

DATE: 12-Sep-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

PPE MULTIPLIER DEVELOPEMENT

		D	mD	mC	C	C+
CREW SIZE & MAKE-UP	STANDARD	7	7	7	7	7
	WORKER-BUDDY	0	0	0	0	0
	SUPPORT TEAM	0	0	0	0	0
	TOTAL CREW	7	7	7	7	7
CREW SIZE RATIO		1.00	1.00	1.00	1.00	1.00
AVAILABLE WORK TIME FACTOR		0.96	0.78	0.7	0.7	0.68
PPE LABOR PRODUCTIVITY FACTOR		1	1	0.86	0.82	0.75
NET PRODUCTIVITY RATIO		0.96	0.78	0.602	0.574	0.51
NET PRODUCTIVITY MULTIPLIER		**1.04**	**1.28**	**1.66**	**1.74**	**1.96**

These factors were based on Tables 6.1 and 6.2, Moderate Work Efforts, 66F to 85F temperature of 'Hazardous Waste Cost Control' by R.A.Selg.
Modifications were made to reflect a 10 hour work day and no buddy system or support team for levels D, mC and C.
The worker-buddy and support team members, if required, may be covered under Construction Mgmt. (Rad Techs).

AVAILABLE WORK TIME FACTOR		D	mD	mC	C	C+
TOTAL WORK MINUTES per [4 - 10's		600	600	600	600	600
ADDITN'L SITE SAFETY MEETINGS NOT INCLD. IN BAS	QUANTITY	1	1	1	1	1
	MINUTES	25	25	25	25	25
TOTAL		25	25	25	25	25
PPE DON & DOFFING	QUANTITY	0	0	3	3	3
(ADJUST LEVEL D per WORK PLAN)	MINUTES	0	0	15	15	20
TOTAL			0	45	45	60
WORK BREAKS	QUANTITY	N/A	2	2	2	2
(ADJUST LEVEL D per WORK PLAN)	MINUTES	N/A	15	15	15	15
TOTAL			30	30	30	30
MOBILIZATION - ROUND TRIPS	QUANTITY	N/A	4	4	4	4
(ADJUST LEVEL D per WORK PLAN)	MINUTES	N/A	15	15	15	15
TOTAL			60	60	60	60
COOLDOWNS PER DAY	QUANTITY	N/A	4	4	4	4
** (4 OUT OF 12 MONTHS) 33.33%	MINUTES	N/A	15	15	15	15
TOTAL			20	20	20	20
AIR TANK REPLACEMENT	QUANTITY	N/A	N/A	N/A	N/A	N/A
	MINUTES	N/A	N/A	N/A	N/A	N/A
TOTAL						
AVAILABLE WORK TIME		575	465	420	420	405
AVAILABLE WORK TIME FACTOR		**0.96**	**0.78**	**0.7**	**0.7**	**0.68**

NOTE: Adjust 'Work Minutes per Day' basis to: 5 - 8's, or leave as 4 - 10's . Any other circumstances, over-ride the minutes per day.

** Assumption based on work performed in May, June, July & August, pro-rating cost over one year. Adjust % to individual circumstances.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: OSDF Control & Management FY06
ESTIMATE NO. C20105011(S)FY06
CLIENT: DOE
WBS NO.: 1.1.C.E

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

Fluor Fernald, Inc.

PPE"s - PERSONAL PROTECTIVE EQUIPMENT

DESCRIPTION	UNIT	UNIT COST	* NO. OF CHANGE OUTS PER WORKER PER DAY				
			Man Days (TOTAL HOURS worked in PPE's Div. by WORK HOURS / DAY)				
PPE LEVEL C / C+ / B : F/HF MASK w/RESP.&CART.			*	MAN DAYS	MAT'L.$'s	PPE LEVEL	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	(DOUBLE PPE)
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	C / C+	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	C / C+	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	C / C+	
APR CARTRIDGES - DISPOSABLE	PR	$6.98	3	0	$0	C / C+	
SUB-TOTAL		$17.42	3		$0		
				$/MD =	$0.00		
PPE LEVEL mC : FULL DRESS w/ FACE SHIELD				MAN DAYS	MAT'L.$'s	PPE LEVEL	
LT.WT. DISPOSABLE COVERALLS W/HOOD & BOOTIES	PR	$4.46	3	0	$0	mC	
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	mC	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	mC	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	mC	
SUB-TOTAL		$5.98	3		$0		
				$/MD =	$0.00		
SUBCONTRACTOR REQUIRED PURCHASES			QTY. PER WKR.	NO. OF WORKERS	MAT'L.$'s	PPE LEVEL	
RUBBER BOOT COVERS-(1)PR.PER WORKER	PR	$12.70	6	0	$0	D/C/B	
APR w/HALF FACE MASK - (1) PER WORKER	EA	$22.30	6	0	$0	C	
APR w/FULL FACE MASK - (1) PER WORKER	EA	$174.00	6	0	$0	C	
SCBA	EA	$1,894.00	2	0	$0	B	
COOL VESTS	EA	$137.50	6	0	$0	C/B	
THERMO STRIPS	EA	$50.00	6	0	$0	C/B	
SUB-TOTAL					$0		

	MAT'L.$'s
TOTAL PPE's =	$0

(FORWARD TO PAGE 2 OF 2)

OTHER PPE's SUCH AS HARD HAT, SAFETY GLASSES/GOGGLES, STEEL TOED SAFETY SHOES, HEARING PROTECTION, ARE CONSIDERED THE SUBCONTRACTORS RESPONSIBILITY AND ARE COVERED IN HIS OVERHEAD EXPENSE.
COSTS OF FD FERNALD SUPPLIED PPE's, SUCH AS COTTON COVERALLS, EXCHANGE OF RUBBER BOOT COVERS AND RESPIRATORS FOR CHANGEOUTS AND CLEANING OF SAME IS INCURRED BY FD FERNALD AND COSTS ARE NOT INCLUDED AS PART OF PROJECT COSTS AT THIS TIME.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: OSDF Control & Management FY06
ESTIMATE NO. C20105011(S)FY06
CLIENT: DOE
WBS NO.: 1.1.C.E

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

--MEDICAL MONITORING --

MEDICAL - PHYSICAL and IN-VIVO MONITORING - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION PHYSICAL (3hrs), IN-VIVO (1hr)	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $
BASELINE PHYSICALS	1	4	0	0	$26.50	$0
ANNUAL PHYSICALS	0	4	0	0	$26.50	$0
EXIT (TERMINATION) PHYSICALS (IN-VIVO)	1	1	0	0	$26.50	$0
SUB-TOTAL						$0

RADIATION IN-VITRO SURVEILLANCE - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $
BI-MONTHLY BIOASSAY	6	1	0	0	$26.50	$0
SUB-TOTAL						$0

RANDOM DRUG TESTING

	TESTS	HRS	TOTAL HOURS	AVG. RATE	LABOR $'s
	5	2	10	$26.50	$300

NO. OF WKRS. TESTED	TESTING DAYS PER YR.	AVG. NO. OF TESTS PER DAY	CHANCE/ DAY FOR TEST	NO. OF WKRS. FOR THIS ESTIMATE	CHANCES /DAY FOR TEST FOR PROJECT	CONSTR WORKING DAYS
2340	226	10	0.0042735	5	0.0214	226

			LABOR $'s THRU SAFETY	LABOR $'s
WORK DELAYS CAUSED BY MONITORING	0.0%		$219,404	$0
				LABOR $'s
WORK DELAYS CAUSED BY RAD CHECKING	0.0%		$219,404	$0

	TOTAL LABOR	TOTAL MAT'L.	GRAND TOTAL
TOTAL HEALTH PHYSICS	$300	$0	$300

(FORWARD TO ESTIMATE SUMMARY SHEET)

ACTIVITY DURATIONS

Fluor Fernald, Inc.

PROJECT: OSDF Control & Management FY06
ESTIMATE NO. C20105011(S)FY06
CLIENT: DOE
WBS NO.: 1.1.C.E

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION
CONSTRUCTION:	01-May-01	01-Oct-05	01-Apr-06	30-Sep-06	12.0	MONTHS
					0	MONTHS
TOTAL					12.0	MONTHS

	DATE of EST. to MID-POINT CTIVITY DURATION	
a.	59.1	MONTHS
b.	0	MONTHS

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION
OPERATIONS					0	MONTHS

DATE of EST. to MID-POINT CTIVITY DURATION	
0	MONTHS

ACTIVITY DURATION IS USED IN DETERMINING NUMBER of WORKERS for CERCLA/SAT TRAINING HOURS and HEALTH PHYSICS COSTS.

ESTIMATE SUMMARY SHEET

PROJECT: OSDF Control & Management FY07
ESTIMATE #: C20105011(S)FY07
CLIENT: DOE
WBS #: 1.1.C.E

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	EQUIP. $	TOTAL $
OSDF Control & Management FY07	6,962		$184,490	$2,500	$46,020	$64,630	$297,640
DIRECT FIELD COSTS TOTAL	**6,962**	**$26.50**	**$184,490**	**$2,500**	**$46,020**	**$64,630**	**$297,640**
SUPERVISION - CONTRACTOR	1,183		$34,914				$34,914
SMALL TOOLS & CONSUMABLES	-	-	-				
MISC. EQUIP. RENTAL	-	-	-				
TEMPORARY FACILITIES							
TEMPORARY UTILITY HOOK-UP							
JOB CLEAN-UP							
PER DIEM / SUBSISTANCE	-	-	-				
HEALTH PHYSICS S/C	11		$300				$300
CERCLA - TRAINING							
GET/SITE ACCESS & JOB SPECIFIC TRAINING	90		$2,400				$2,400
PAYROLL BURDENS & BENEFITS	-	-	$126,600				$126,600
OVERHEAD & PROFIT	-	-	-	$92,400			$92,400
BOND	-	-	-	$7,200			$7,200
SALES TAX	-	-	-		$2,800	$3,900	$6,700
INDIRECT FIELD COSTS TOTAL	**1,285**		**$164,214**	**$99,600**	**$2,800**	**$3,900**	**$270,514**
DIRECT & INDIRECT FIELD COSTS TOTAL	**8,246**	**$42.29**	**$348,704**	**$102,100**	**$48,820**	**$68,530**	**$568,154**
TARGET ESTIMATE			**(FY 01 DOLLARS)**				**$568,154**

ESTIMATE PERFORMED BY ESTIMATING SERVICES

ESTIMATE SUMMARY SHEET

PROJECT: OSDF Control & Management FY07 | DATE: 17-May-01

ESTIMATE NO. C20105011(S)FY07 | **F A C T O R S** | ESTIMATOR: T.WAGNER

CLIENT: DOE | LOCATION: Fernald

WBS NO.: 1.1.C.E | TASK NO.: CDG11

FIXED PRICE S	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
DFC DOLLARS	$184,490	$2,500	$46,020	$64,630		$297,640
IFC COST FACTOR	1.8901	--	1.0000	1.0000	--	
BOND + OVERHEAD & PROFIT COST FACTOR	1.2126	1.2126	1.2126	1.2126	1.2126	
SALES TAX	-	-	1.0600	1.0600	1.0600	
DIRECT FIELD COST FACTOR =	2.2919	1.2126	1.2853	1.2853	1.2853	
BASE ESTIMATE $'s	$422,827	$3,031	$59,151	$83,070		$568,080
BASE FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	
TARGET ESTIMATE FACTOR	2.2919	1.2126	1.2853	1.2853	1.2853	
FPS TARGET ESTIMATE (FY00 $)	$422,827	$3,031	$59,151	$83,070		$568,080

NOTE:

If there are no DFC Equip. $, enter The IFC Equip. $'s into the direct field cost TOTAL and delete IFC Factor in G65.

ESTIMATE SUMMARY SHEET

PROJECT: OSDF Control & Management FY07 | **DATE:** 17-May-01

ESTIMATE NO. C20105011(S)FY07 | **ESTIMATOR:** T.WAGNER

CLIENT: DOE | **LOCATION:** Fernald

WBS NO.: 1.1.C.E | **TASK NO.:** CDG11

Direct Field Cost w/FACTORS

PAY ITEM NO.	DESCRIPTION	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
		(ASSIGN OR PRORATE PPE MAT'L.$'s)-->>					
	OSDF Control & Management FY07	184490	2500	46020	64630		
		$422,830	$3,030	$59,150	$83,070		$568,080
TOTAL DIRECT FIELD COSTS w/FACTORS		(FY01 DOLLARS)					$568,080

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF Control & Management FY07
ESTIMATE NO.: C20105011(S)FY07
CLIENT: DOE
WBS NO.: 1.1.C.E

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

ITEM NO.	SUMMARY	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST / UNIT Labor	COST / UNIT S/C	COST / UNIT Mat'l	COST / UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	OSDF Control & Management FY07				6,962						$184,490	$2,500	$46,020	$64,630	$297,640
	Subtotal Direct Cost	1	LOT		6,962	$26.50					$184,490	$2,500	$46,020	$64,630	$297,640

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF Control & Management FY07
ESTIMATE NO.: C20105011(S)FY07
CLIENT: DOE
WBS NO.: 1.1.C.E

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

PPE Level	OSDF Control & Management FY07	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	1. Repair Silt Fence														
D	2 Laborer@10 hr/day 2x's mo.for 1 yr	2	ea	240	480	20.59					$9,880		$2,000		$11,880
	2. Check dams, drainage, channel clearing and repair, temp. culvert cleaning														
D	2 Laborer@10 hr/day,2x's mo.for 3mo	2	ea	60	120	20.59					$2,470				$2,470
	Material allowance	1	ls						3,000				$3,000		$3,000
D	Operator and Cat416C	30	hr	1	30	24.57				25.00	$740			$750	$1,490
	3. Sediment basin cleaning & repair once a year.														
D	Operator and CAT330 for 2 days,10hr. e	20	hr	1	20	24.57				99.74	$490			$1,990	$2,480
D	Teamster and Volvo Truck	20	hr	1	20	20.78				73.62	$420			$1,470	$1,890
D	2 Laborers for 2 days	20	hr	2	40	20.59					$820				$820
	4. Application of surfactant once a year.														
D	35 acres application	3,500	gal						4.50				$15,750		$15,750
D	Hydroseeder	6	day							250.00				$1,500	$1,500
D	Laborers 2ea. @ 6 days/10hr	60	hr	2	120	20.59					$2,470				$2,470
D	Teamster 1 ea. @ 6 days/10hr	60	hr	1	60	20.78					$1,250				$1,250
	5. Catchment area control & M67														
	5A: 20 days of pumping / yr														
D	Laborers 2ea. 4hrs ea day	80	hr	2	160	20.59					$3,290				$3,290
D	Teamster 1ea. 2 hrs ea day	40	hr	1	40	20.78					$830				$830
D	Electric pump 3"	200	hr						2.14				$430		$430
	5B: Remove silt from catchment 2x's/yr 5days x 2 catchments x 2 times														
D	Laborers 2ea. 4hrs ea day	80	hr	2.0	160	20.59					$3,290				$3,290
D	Operator 1ea. 4hrs ea day	80	hr	1.0	80	24.57					$1,970				$1,970
D	Electric pump 3"	80	hr						2.14				$170		$170
D	PosiTrac	80	hr						14.63				$1,170		$1,170
D	CAT330	80	hr							99.74				$7,980	$7,980

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF Control & Management FY07
ESTIMATE NO.: C20105011(S)FY07
CLIENT: DOE
WBS NO.: 1.1.C.E

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

ITEM NO.	OSDF Control & Management FY07	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	6. Winterization of access control trailers														
D	Material allowance	1	ls						2,000				$2,000		$2,000
D	Carpenter 2ea 2days/yr	20	hr	2	40	22.82					$910				$910
	7. Installation & repair signs, barricades, & fences														
D	Material allowance	1	ls						5,000				$5,000		$5,000
D	Laborer 2ea x 2 day x 12 month	240	hr	2	480	20.59					$9,880				$9,880
	8. Repair of paved & unpaved roads														
	8A: Unpaved 500ton/yr 20 days														
D	Operator 2ea	200	hr	2	400	24.57					$9,830				$9,830
D	Teamster 1ea	200	hr	1	200	20.78					$4,160				$4,160
D	Foreman 1 ea	200	hr	1	200	21.59					$4,320				$4,320
D	Stone #304	500	tn						13.00				$6,500		$6,500
D	CAT D-6	200	hr							63.28				$12,660	$12,660
D	CAT 563 compactor	200	hr							40.98				$8,200	$8,200
D	CAT 613 ww	200	hr							83.19				$16,640	$16,640
	8B: Asphalt 300' x 25' = 7500sf														
D	Bituminous asphalt install. 3" thick		sf					5.93							
	9. Maint/repair const wells, temp. water lines														
	9A: Maint. Const wells - Subcontract	1	ls					2,500				$2,500			$2,500
	9B: Maint./repair temp water lines														
	Material allowance	1	ls						10,000				$10,000		$10,000
D	Pipe fitter 1ea 50 hrs/wk for 1 yr	2,600	hr	1	2,600	26.40					$68,630				$68,630
	Pipe fitter 1ea 50 hrs/wk for 5.5 mo. for 2nd shift during 3rd & 4th Qtr.	1,192	hr	1	1,192	39.59					$47,180				$47,180

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF Control & Management FY07
ESTIMATE NO.: C20105011(S)FY07
CLIENT: DOE
WBS NO.: 1.1.C.E

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

ITEM NO.	OSDF Control & Management FY07	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	10. Repair seeded areas on permanent cap & borrow area														
	CAT D-4	100	hr							34.73				$3,470	$3,470
	CAT 330	100	hr							99.74				$9,970	$9,970
D	Operator 2ea 5days x 2 /yr	100	hr	2	200	24.57					$4,910				$4,910
D	Laborer 2ea 5 days x 2/yr	100	hr	2	200	20.59					$4,120				$4,120
	11. OSDF equipment wash maint.														
D	Laborer 2ea : 2days x 2 seasons	40	hr	2	80	20.59					$1,650				$1,650
D	Operator 1ea : 2days x 2 seasons	40	hr	1	40	24.57					$980				$980
	Subtotal Direct Cost	1	LOT		6,962	$26.50					184,490	2,500	46,020	64,630	$297,640

APPENDIX " A"

PROJECT: OSDF Control & Management FY07
ESTIMATE NOC20105011(S)FY07
CLIENT: DOE
WBS NO.: 1.1.C.E

SITE SPECIFIC

EFFICIENCY / MULTIPLIER ANALYSIS

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

PERCENT OF INFLUENCE ON CHART MANHOURS

	40%	50%	60%	70%	80%	90%	100%	105%	110%	% OF INFLUENCE	WT'D VALUE	PROD. RESULT
CRAFT SKILL (NOTE 1)	POOR			FAIR			STD	V.GOOD	XCELLENT	100.0%	12.0%	0.12
CRAFT AVAIL.(NOTE 1)		POOR		FAIR			STD			100.0%	8.0%	0.08
CLIMATE (NOTE 2)	SEVERE	ICE/SNOW			RAIN		+40 TO +85			90.0%	20.0%	0.18
PLANT ELEVATION		OVER 10,000FT			5,000' TO 10,000 FT		UNDER 5,000 FT			100.0%	5.0%	0.05
WORK SPACE				200 SF	250 SF	300 SF	350 SF			100.0%	10.0%	0.1
	<---- MULTIPLE SHIFTS-											
WORK WEEK							4-10s / 5-8s			100.0%	15.0%	0.15
50 HOUR WORK WEEK	////////// //// MULTIPLE-SHIFT	//////////	//////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS				0.0%	0.0%	0
60 HOUR WORK WEEK	////////// //////////	////////// //////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS					0.0%	0.0%	0
SHIFTWORK							OR					
2ND SHIFT					2ND SHIFT		ONE SHIFT			100.0%	3.0%	0.03
3RD SHIFT			3RD SHIFT				ONLY			100.0%	5.0%	0.05
PROJECT SIZE					400M MH AND UP	300M TO 400M MH	200M TO 300M MH	200M MH OR LESS		100.0%	4.0%	0.04
PLANT TYPE				REVAMP ONLY	REVAMP & NEW	NEW IN EXIST PLT	GRASS ROOTS			90.0%	8.0%	0.072
AREA/UNION INFLUENCE	STRONG		MILD		SOME		NONE			40.0%	10.0%	0.04
											100.0%	91.2%

NOTES.....
1. TURNOVER HAS BEEN CONSIDERED

2. FOR EXTERIOR WORK ONLY

EFFICIENCY (AS A % OFF CHART MANHOURS) 91.2%

MULTIPLIER - (TO BE APPLIED TO CHART M.H.'S TO OBTAIN SITE M.H.'S) 1.10

EFFICIENCY FACTORS

PROJECT: OSDF Control & Management FY07
ESTIMATE NO. C20105011(S)FY07
CLIENT: DOE
WBS NO.: 1.1.C.E

Fluor Fernald, Inc.

DATE: 12-Sep-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

EXAMPLE:

STANDARD CHART MANHOURS =	NET	100
EFFICIENCY FACTORS:		
* SITE SPECIFIC (SEE APPENDIX A)	[redacted]	10.0
S/T = BASE UNIT MANHOURS		110
OVERTIME PRODUCTIVITY FACTOR	0.00%	0
(SEE DETAIL WORKSHEET BACK-UP)		110
* TASK SPECIFIC (confined space, high elevation, congestion, etc.)	0.0%	0
		110

* PPE SPECIFIC (Based on current data and estimating knowledge)

	PPE LEVEL									
	D		Mod.'D'		Mod. "C"		C		C+	
PRODUCTIVITY HOURS		MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's
(AS A %) / ADD MH's	4.00%	4	28.00%	31	66.00%	73	74.00%	81	96.00%	106
(AS A MULTIPLIER)/TOTAL HRS	1.04	114.4	1.28	140.8	1.66	182.6	1.74	191.4	1.96	215.6
TOTAL MULTIPLIER w/SITE PROD.	1.144		1.408		1.826		1.914		2.156	

NOTE : Use the Default Productivity Factor of 'mC' for working in a contaminated area if the Safety Level cannot be determined.

(SEE FD FERNALD ESTIMATING SERVICES REFERENCE MANUAL IM-6006 8.10)

Total hours worked in a specific PPE level divided by 10 hour working days = (PPE) ManDays to determine material cost of PPE's. (SEE APPENDIX C - HEALTH PHYSICS)

11.0	Man Days	14.0	Man Days	18.0	Man Days	19.0	Man Days	22.0	Man Days

THESE EFFICIENCY FACTORS WERE APPLIED INDIVIDUALLY THROUGHOUT THE ESTIMATE AT A TASK SPECIFIC LEVEL, TO OBTAIN A MORE ACCURATE ACCOUNT OF OVERALL EFFICIENCY IMPACT DUE TO PPE REQUIREMENTS IN HANDLING CONTAMINATED AND HAZARDOUS WASTE.

EFFICIENCY FACTORS

PROJECT: OSDF Control & Management FY07
ESTIMATE NO. C20105011(S)FY07
CLIENT: DOE
WBS NO.: 1.1.C.E

DATE: 12-Sep-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

PPE MULTIPLIER DEVELOPEMENT

		D	mD	mC	C	C+
CREW SIZE & MAKE-UP	STANDARD	7	7	7	7	7
	WORKER-BUDDY	0	0	0	0	0
	SUPPORT TEAM	0	0	0	0	0
	TOTAL CREW	7	7	7	7	7
CREW SIZE RATIO		1.00	1.00	1.00	1.00	1.00
AVAILABLE WORK TIME FACTOR		0.96	0.78	0.7	0.7	0.68
PPE LABOR PRODUCTIVITY FACTOR		1	1	0.86	0.82	0.75
NET PRODUCTIVITY RATIO		0.96	0.78	0.602	0.574	0.51
NET PRODUCTIVITY MULTIPLIER		**1.04**	**1.28**	**1.66**	**1.74**	**1.96**

These factors were based on Tables 6.1 and 6.2, Moderate Work Efforts, 66F to 85F temperature of 'Hazardous Waste Cost Control' by R.A.Selg.
Modifications were made to reflect a 10 hour work day and no buddy system or support team for levels D, mC and C.
The worker-buddy and support team members, if required, may be covered under Construction Mgmt. (Rad Techs).

AVAILABLE WORK TIME FACTOR		D	mD	mC	C	C+
TOTAL WORK MINUTES per [4 - 10's		600	600	600	600	600
ADDITN'L.SITE SAFETY MEETINGS NOT INCLD. IN BAS	QUANTITY	1	1	1	1	1
	MINUTES	25	25	25	25	25
TOTAL		25	25	25	25	25
PPE DON & DOFFING	QUANTITY	0	0	3	3	3
(ADJUST LEVEL D per WORK PLAN)	MINUTES	0	0	15	15	20
TOTAL			0	45	45	60
WORK BREAKS	QUANTITY	N/A	2	2	2	2
(ADJUST LEVEL D per WORK PLAN)	MINUTES	N/A	15	15	15	15
TOTAL			30	30	30	30
MOBILIZATION - ROUND TRIPS	QUANTITY	N/A	4	4	4	4
(ADJUST LEVEL D per WORK PLAN)	MINUTES	N/A	15	15	15	15
TOTAL			60	60	60	60
COOLDOWNS PER DAY	QUANTITY	N/A	4	4	4	4
** (4 OUT OF 12 MONTHS) 33.33%	MINUTES	N/A	15	15	15	15
TOTAL			20	20	20	20
AIR TANK REPLACEMENT	QUANTITY	N/A	N/A	N/A	N/A	N/A
	MINUTES	N/A	N/A	N/A	N/A	N/A
TOTAL						
AVAILABLE WORK TIME		575	465	420	420	405
AVAILABLE WORK TIME FACTOR		**0.96**	**0.78**	**0.7**	**0.7**	**0.68**

NOTE: Adjust 'Work Minutes per Day' basis to: 5 - 8's, or leave as 4 - 10's . Any other circumstances, over-ride the minutes per day.

** Assumption based on work performed in May, June, July & August, pro-rating cost over one year. Adjust % to individual circumstances.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: OSDF Control & Management FY07
ESTIMATE NO. C20105011(S)FY07
CLIENT: DOE
WBS NO.: 1.1.C.E

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

Fluor Fernald, Inc.

PPE"s - PERSONAL PROTECTIVE EQUIPMENT

DESCRIPTION	UNIT	UNIT COST	* NO. OF CHANGE OUTS PER WORKER PER DAY Man Days (TOTAL HOURS worked in PPE's Div. by WORK HOURS / DAY)				
PPE LEVEL C / C+ / B : F/HF MASK w/RESP.&CART.			*	MAN DAYS	MAT'L.$'s	PPE LEVEL	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	(DOUBLE PPE)
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	C / C+	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	C / C+	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	C / C+	
APR CARTRIDGES - DISPOSABLE	PR	$6.98	3	0	$0	C / C+	
SUB-TOTAL		$17.42	3		$0		
				$/MD =	$0.00		
PPE LEVEL mC : FULL DRESS w/ FACE SHIELD				MAN DAYS	MAT'L.$'s	PPE LEVEL	
LT.WT. DISPOSABLE COVERALLS W/HOOD & BOOTIES	PR	$4.46	3	0	$0	mC	
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	mC	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	mC	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	mC	
SUB-TOTAL		$5.98	3		$0		
				$/MD =	$0.00		
SUBCONTRACTOR REQUIRED PURCHASES			QTY. PER WKR.	NO. OF WORKERS	MAT'L.$'s	PPE LEVEL	
RUBBER BOOT COVERS-(1)PR.PER WORKER	PR	$12.70	6	0	$0	D/C/B	
APR w/HALF FACE MASK - (1) PER WORKER	EA	$22.30	6	0	$0	C	
APR w/FULL FACE MASK - (1) PER WORKER	EA	$174.00	6	0	$0	C	
SCBA	EA	$1,894.00	2	0	$0	B	
COOL VESTS	EA	$137.50	6	0	$0	C/B	
THERMO STRIPS	EA	$50.00	6	0	$0	C/B	
SUB-TOTAL					$0		

	MAT'L.$'s
TOTAL PPE's =	$0

(FORWARD TO PAGE 2 OF 2)

OTHER PPE's SUCH AS HARD HAT, SAFETY GLASSES/GOGGLES, STEEL TOED SAFETY SHOES, HEARING PROTECTION, ARE CONSIDERED THE SUBCONTRACTORS RESPONSIBILITY AND ARE COVERED IN HIS OVERHEAD EXPENSE.
COSTS OF FD FERNALD SUPPLIED PPE's, SUCH AS COTTON COVERALLS, EXCHANGE OF RUBBER BOOT COVERS AND RESPIRATORS FOR CHANGEOUTS AND CLEANING OF SAME IS INCURRED BY FD FERNALD AND COSTS ARE NOT INCLUDED AS PART OF PROJECT COSTS AT THIS TIME.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: OSDF Control & Management FY07
ESTIMATE NO. C20105011(S)FY07
CLIENT: DOE
WBS NO.: 1.1.C.E

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

--MEDICAL MONITORING --

MEDICAL - PHYSICAL and IN-VIVO MONITORING - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION PHYSICAL (3hrs), IN-VIVO (1hr)	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $	
BASELINE PHYSICALS	1	4	0	0	$26.50	$0	
ANNUAL PHYSICALS	0	4	0	0	$26.50	$0	
EXIT (TERMINATION) PHYSICALS (IN-VIVO)	1	1	0	0	$26.50	$0	
SUB-TOTAL						$0	

RADIATION IN-VITRO SURVEILLANCE - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $	
BI-MONTHLY BIOASSAY	6	1	0	0	$26.50	$0	
SUB-TOTAL						$0	

RANDOM DRUG TESTING

	TESTS	HRS	TOTAL HOURS	AVG. RATE	LABOR $'s	
	5	2	10	$26.50	$300	
NO. OF WKRS. TESTED	TESTING DAYS PER YR.	AVG. NO. OF TESTS PER DAY	CHANCE/ DAY FOR TEST	NO. OF WKRS. FOR THIS ESTIMATE	CHANCES /DAY FOR TEST FOR PROJECT	CONSTR WORKING DAYS
2340	226	10	0.0042735	5	0.0214	226

			LABOR $'s THRU SAFETY	LABOR $'s	
WORK DELAYS CAUSED BY MONITORING	0.0%		$219,404	$0	
				LABOR $'s	
WORK DELAYS CAUSED BY RAD CHECKING	0.0%		$219,404	$0	

	TOTAL LABOR	TOTAL MAT'L.	GRAND TOTAL
TOTAL HEALTH PHYSICS	$300	$0	$300

(FORWARD TO ESTIMATE SUMMARY SHEET)

ACTIVITY DURATIONS

Fluor Fernald, Inc.

PROJECT: OSDF Control & Management FY07
ESTIMATE NO. C20105011(S)FY07
CLIENT: DOE
WBS NO.: 1.1.C.E

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION
CONSTRUCTION:	01-May-01	01-Oct-06	01-Apr-07	30-Sep-07	12.0	MONTHS
					0	MONTHS
TOTAL					12.0	MONTHS

	DATE of EST. to MID-POINT CTIVITY DURATION	
a.	71.1	MONTHS
b.	0	MONTHS

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION
OPERATIONS					0	MONTHS

DATE of EST. to MID-POINT CTIVITY DURATION	
0	MONTHS

ACTIVITY DURATION IS USED IN DETERMINING NUMBER of WORKERS for CERCLA/SAT TRAINING HOURS and HEALTH PHYSICS COSTS.

ESTIMATE SUMMARY SHEET

Fluor Fernald, Inc.

PROJECT: OSDF Control & Management FY08
ESTIMATE #: C20105011(S)FY08
CLIENT: DOE
WBS #: 1.1.C.E

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	EQUIP. $	TOTAL $
OSDF Control & Management FY08	5,770		$137,310	$2,500	$46,020	$64,630	$250,460
DIRECT FIELD COSTS TOTAL	5,770	$23.80	$137,310	$2,500	$46,020	$64,630	$250,460
SUPERVISION - CONTRACTOR	981		$26,285				$26,285
SMALL TOOLS & CONSUMABLES	-	-	-				
MISC. EQUIP. RENTAL	-	-	-				
TEMPORARY FACILITIES							
TEMPORARY UTILITY HOOK-UP							
JOB CLEAN-UP							
PER DIEM / SUBSISTANCE	-	-	-				
HEALTH PHYSICS S/C	8		$200				$200
CERCLA - TRAINING							
GET/SITE ACCESS & JOB SPECIFIC TRAINING	72		$1,700				$1,700
PAYROLL BURDENS & BENEFITS	-	-	$94,300				$94,300
OVERHEAD & PROFIT	-	-	-	$74,600			$74,600
BOND	-	-	-	$5,800			$5,800
SALES TAX	-	-	-		$2,800	$3,900	$6,700
INDIRECT FIELD COSTS TOTAL	1,061		$122,485	$80,400	$2,800	$3,900	$209,585
DIRECT & INDIRECT FIELD COSTS TOTAL	6,831	$38.03	$259,795	$82,900	$48,820	$68,530	$460,045
TARGET ESTIMATE			(FY 01 DOLLARS)				$460,045

ESTIMATE PERFORMED BY ESTIMATING SERVICES

ESTIMATE SUMMARY SHEET

PROJECT: OSDF Control & Management FY08 | DATE: 17-May-01

ESTIMATE NO. C20105011(S)FY08 | ESTIMATOR: T.WAGNER

CLIENT: DOE | LOCATION: Fernald

WBS NO.: 1.1.C.E | TASK NO.: CDG11

F A C T O R S

FIXED PRICE S	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
DFC DOLLARS	$137,310	$2,500	$46,020	$64,630		$250,460
IFC COST FACTOR	1.8920	--	1.0000	1.0000	--	
BOND + OVERHEAD & PROFIT COST FACTOR	1.2118	1.2118	1.2118	1.2118	1.2118	
SALES TAX	-	-	1.0600	1.0600	1.0600	
DIRECT FIELD COST FACTOR =	2.2927	1.2118	1.2845	1.2845	1.2845	
BASE ESTIMATE $'s	$314,814	$3,029	$59,112	$83,016		$459,971
BASE FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	
TARGET ESTIMATE FACTOR	2.2927	1.2118	1.2845	1.2845	1.2845	
FPS TARGET ESTIMATE (FY00 $)	$314,814	$3,029	$59,112	$83,016		$459,971

NOTE:

If there are no DFC Equip. $, enter The IFC Equip. $'s into the direct field cost TOTAL and delete IFC Factor in G65.

ESTIMATE SUMMARY SHEET

PROJECT: OSDF Control & Management FY08 | **DATE:** 17-May-01

ESTIMATE NO. C20105011(S)FY08 | **ESTIMATOR:** T.WAGNER

CLIENT: DOE | **LOCATION:** Fernald

WBS NO.: 1.1.C.E | **TASK NO.:** CDG11

Direct Field Cost w/FACTORS

PAY ITEM NO.	DESCRIPTION	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
		(ASSIGN OR PRORATE PPE MAT'L.$'s)-->>					
	OSDF Control & Management FY08	137310	2500	46020	64630		
		$314,810	$3,030	$59,110	$83,020		$459,970
TOTAL DIRECT FIELD COSTS w/FACTORS		(FY01 DOLLARS)					$459,970

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF Control & Management FY08
ESTIMATE NO.: C20105011(S)FY08
CLIENT: DOE
WBS NO.: 1.1.C.E

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

ITEM NO.	SUMMARY	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST / UNIT Labor	COST / UNIT S/C	COST / UNIT Mat'l	COST / UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	OSDF Control & Management FY08				5,770						$137,310	$2,500	$46,020	$64,630	$250,460
	Subtotal Direct Cost	1	LOT		5,770	$23.80					$137,310	$2,500	$46,020	$64,630	$250,460

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF Control & Management FY08
ESTIMATE NO.: C20105011(S)FY08
CLIENT: DOE
WBS NO.: 1.1.C.E

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

PPE Level	OSDF Control & Management FY08	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	* S/C	MAT'L	EQUIP	TOTAL
	1. Repair Silt Fence														
D	2 Laborer@10 hr/day 2x's mo.for 1 yr	2	ea	240	480	20.59					$9,880		$2,000		$11,880
	2. Check dams, drainage, channel clearing and repair, temp. culvert cleaning														
D	2 Laborer@10 hr/day,2x's mo.for 3mo	2	ea	60	120	20.59					$2,470				$2,470
	Material allowance	1	ls						3,000				$3,000		$3,000
D	Operator and Cat416C	30	hr	1	30	24.57				25.00	$740			$750	$1,490
	3. Sediment basin cleaning & repair once a year.														
D	Operator and CAT330 for 2 days,10hr. e	20	hr	1	20	24.57				99.74	$490			$1,990	$2,480
D	Teamster and Volvo Truck	20	hr	1	20	20.78				73.62	$420			$1,470	$1,890
D	2 Laborers for 2 days	20	hr	2	40	20.59					$820				$820
	4. Application of surfactant once a year.														
D	35 acres application	3,500	gal						4.50				$15,750		$15,750
D	Hydroseeder	6	day							250.00				$1,500	$1,500
D	Laborers 2ea. @ 6 days/10hr	60	hr	2	120	20.59					$2,470				$2,470
D	Teamster 1 ea. @ 6 days/10hr	60	hr	1	60	20.78					$1,250				$1,250
	5. Catchment area control & M67														
	5A: 20 days of pumping / yr														
D	Laborers 2ea. 4hrs ea day	80	hr	2	160	20.59					$3,290				$3,290
D	Teamster 1ea. 2 hrs ea day	40	hr	1	40	20.78					$830				$830
D	Electric pump 3"	200	hr						2.14				$430		$430
	5B: Remove silt from catchment 2x's/yr 5days x 2 catchments x 2 times														
D	Laborers 2ea. 4hrs ea day	80	hr	2.0	160	20.59					$3,290				$3,290
D	Operator 1ea. 4hrs ea day	80	hr	1.0	80	24.57					$1,970				$1,970
D	Electric pump 3"	80	hr						2.14				$170		$170
D	PosiTrac	80	hr						14.63				$1,170		$1,170
D	CAT330	80	hr							99.74				$7,980	$7,980

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF Control & Management FY08
ESTIMATE NO.: C20105011(S)FY08
CLIENT: DOE
WBS NO.: 1.1.C.E

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

ITEM NO.	OSDF Control & Management FY08	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	6. Winterization of access control trailers														
D	Material allowance	1	ls						2,000				$2,000		$2,000
D	Carpenter 2ea 2days/yr	20	hr	2	40	22.82					$910				$910
	7. Installation & repair signs, barricades, & fences														
D	Material allowance	1	ls						5,000				$5,000		$5,000
D	Laborer 2ea x 2 day x 12 month	240	hr	2	480	20.59					$9,880				$9,880
	8. Repair of paved & unpaved roads														
	8A: Unpaved 500ton/yr 20 days														
D	Operator 2ea	200	hr	2	400	24.57					$9,830				$9,830
D	Teamster 1ea	200	hr	1	200	20.78					$4,160				$4,160
D	Foreman 1 ea	200	hr	1	200	21.59					$4,320				$4,320
D	Stone #304	500	tn						13.00				$6,500		$6,500
D	CAT D-6	200	hr							63.28				$12,660	$12,660
D	CAT 563 compactor	200	hr							40.98				$8,200	$8,200
D	CAT 613 ww	200	hr							83.19				$16,640	$16,640
	8B: Asphalt 300' x 25' = 7500sf														
D	Bituminous asphalt install. 3" thick														
	9. Maint/repair const wells, temp. water lines														
	9A: Maint. Const wells - Subcontract	1	ls					2,500				$2,500			$2,500
	9B: Maint./repair temp water lines														
	Material allowance	1	ls						10,000				$10,000		$10,000
D	Pipe fitter 1ea 50 hrs/wk for 1 yr	2,600	hr	1	2,600	26.40					$68,630				$68,630

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF Control & Management FY08
ESTIMATE NO.: C20105011(S)FY08
CLIENT: DOE
WBS NO.: 1.1.C.E

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

ITEM NO.	OSDF Control & Management FY08	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	10. Repair seeded areas on permanent cap & borrow area														
	CAT D-4	100	hr							34.73				$3,470	$3,470
	CAT 330	100	hr							99.74				$9,970	$9,970
D	Operator 2ea 5days x 2 /yr	100	hr	2	200	24.57					$4,910				$4,910
D	Laborer 2ea 5 days x 2/yr	100	hr	2	200	20.59					$4,120				$4,120
	11. OSDF equipment wash maint.														
D	Laborer 2ea : 2days x 2 seasons	40	hr	2	80	20.59					$1,650				$1,650
D	Operator 1ea : 2days x 2 seasons	40	hr	1	40	24.57					$980				$980
	Subtotal Direct Cost	1	LOT		5,770	$23.80					137,310	2,500	46,020	64,630	$250,460

APPENDIX " A"

PROJECT: OSDF Control & Management FY08
ESTIMATE NOC20105011(S)FY08
CLIENT: DOE
WBS NO.: 1.1.C.E

SITE SPECIFIC

EFFICIENCY / MULTIPLIER ANALYSIS

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

PERCENT OF INFLUENCE ON CHART MANHOURS	40%	50%	60%	70%	80%	90%	100%	105%	110%	% OF INFLUENCE	WT'D VALUE	PROD. RESULT
CRAFT SKILL (NOTE 1)	POOR			FAIR			STD	V.GOOD	XCELLENT	100.0%	12.0%	0.12
CRAFT AVAIL.(NOTE 1)		POOR		FAIR			STD			100.0%	8.0%	0.08
CLIMATE (NOTE 2)	SEVERE	ICE/SNOW			RAIN		+40 TO +85			90.0%	20.0%	0.18
PLANT ELEVATION		OVER 10,000FT			5,000' TO 10,000 FT		UNDER 5,000 FT			100.0%	5.0%	0.05
WORK SPACE				200 SF	250 SF	300 SF	350 SF			100.0%	10.0%	0.1
	<---- MULTIPLE SHIFTS-											
WORK WEEK							4-10s / 5-8s			100.0%	15.0%	0.15
50 HOUR WORK WEEK	//////////	//////////	//////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS				0.0%	0.0%	0
	//// MULTIPLE-SHIFT ////////											
60 HOUR WORK WEEK	//////////	//////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS					0.0%	0.0%	0
	//////////	//////////										
SHIFTWORK							OR					
2ND SHIFT					2ND SHIFT		ONE SHIFT			100.0%	3.0%	0.03
3RD SHIFT			3RD SHIFT				ONLY			100.0%	5.0%	0.05
PROJECT SIZE					400M MH AND UP	300M TO 400M MH	200M TO 300M MH	200M MH OR LESS		100.0%	4.0%	0.04
PLANT TYPE				REVAMP ONLY	REVAMP & NEW	NEW IN EXIST PLT	GRASS ROOTS			90.0%	8.0%	0.072
AREA/UNION INFLUENCE	STRONG		MILD		SOME		NONE			40.0%	10.0%	0.04
											100.0%	91.2%

NOTES.....
1. TURNOVER HAS BEEN CONSIDERED

2. FOR EXTERIOR WORK ONLY

EFFICIENCY (AS A % OFF CHART MANHOURS) 91.2%

MULTIPLIER - (TO BE APPLIED TO CHART M.H.'S TO OBTAIN SITE M.H.'S) 1.10

EFFICIENCY FACTORS

PROJECT: OSDF Control & Management FY08
ESTIMATE NO. C20105011(S)FY08
CLIENT: DOE
WBS NO.: 1.1.C.E

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

EXAMPLE:

STANDARD CHART MANHOURS =	NET	100
EFFICIENCY FACTORS:		
* SITE SPECIFIC (SEE APPENDIX A)	[redacted]	10.0
S/T = BASE UNIT MANHOURS		110
OVERTIME PRODUCTIVITY FACTOR	0.00%	0
(SEE DETAIL WORKSHEET BACK-UP)		110
* TASK SPECIFIC (confined space, high elevation, congestion, etc.)	0.0%	0
		110

* PPE SPECIFIC (Based on current data and estimating knowledge)

	PPE LEVEL									
	D		Mod.'D'		Mod. "C"		C		C+	
PRODUCTIVITY HOURS		MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's
(AS A %) / ADD MH's	4.00%	4	28.00%	31	66.00%	73	74.00%	81	96.00%	106
(AS A MULTIPLIER)/TOTAL HRS	1.04	114.4	1.28	140.8	1.66	182.6	1.74	191.4	1.96	215.6
TOTAL MULTIPLIER w/SITE PROD.	1.144		1.408		1.826		1.914		2.156	

NOTE : Use the Default Productivity Factor of 'mC' for working in a contaminated area if the Safety Level cannot be determined.

(SEE FD FERNALD ESTIMATING SERVICES REFERENCE MANUAL IM-6006 8.10)

Total hours worked in a specific PPE level divided by 10 hour working days = (PPE) ManDays to determine material cost of PPE's.
(SEE APPENDIX C - HEALTH PHYSICS)

11.0	Man Days	14.0	Man Days	18.0	Man Days	19.0	Man Days	22.0	Man Days

THESE EFFICIENCY FACTORS WERE APPLIED INDIVIDUALLY THROUGHOUT THE ESTIMATE AT A TASK SPECIFIC LEVEL, TO OBTAIN A MORE ACCURATE ACCOUNT OF OVERALL EFFICIENCY IMPACT DUE TO PPE REQUIREMENTS IN HANDLING CONTAMINATED AND HAZARDOUS WASTE.

EFFICIENCY FACTORS

PROJECT: OSDF Control & Management FY08
ESTIMATE NO. C20105011(S)FY08
CLIENT: DOE
WBS NO.: 1.1.C.E

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

_PPE MULTIPLIER DEVELOPEMENT

		D	mD	mC	C	C+
CREW SIZE & MAKE-UP	STANDARD	7	7	7	7	7
	WORKER-BUDDY	0	0	0	0	0
	SUPPORT TEAM	0	0	0	0	0
	TOTAL CREW	7	7	7	7	7
CREW SIZE RATIO		1.00	1.00	1.00	1.00	1.00
AVAILABLE WORK TIME FACTOR		0.96	0.78	0.7	0.7	0.68
PPE LABOR PRODUCTIVITY FACTOR		1	1	0.86	0.82	0.75
NET PRODUCTIVITY RATIO		0.96	0.78	0.602	0.574	0.51
NET PRODUCTIVITY MULTIPLIER		**1.04**	**1.28**	**1.66**	**1.74**	**1.96**

These factors were based on Tables 6.1 and 6.2, Moderate Work Efforts, 66F to 85F temperature of 'Hazardous Waste Cost Control' by R.A.Selg.
Modifications were made to reflect a 10 hour work day and no buddy system or support team for levels D, mC and C.
The worker-buddy and support team members, if required, may be covered under Construction Mgmt. (Rad Techs).

AVAILABLE WORK TIME FACTOR		D	mD	mC	C	C+
TOTAL WORK MINUTES per D 4 - 10's		600	600	600	600	600
ADDITN'L.SITE SAFETY MEETINGS NOT INCLD. IN BA	QUANTITY	1	1	1	1	1
	MINUTES	25	25	25	25	25
TOTAL		25	25	25	25	25
PPE DON & DOFFING	QUANTITY	0	0	3	3	3
(ADJUST LEVEL D per WORK PLAN)	MINUTES	0	0	15	15	20
TOTAL			0	45	45	60
WORK BREAKS	QUANTITY	N/A	2	2	2	2
(ADJUST LEVEL D per WORK PLAN)	MINUTES	N/A	15	15	15	15
TOTAL			30	30	30	30
MOBILIZATION - ROUND TRIPS	QUANTITY	N/A	4	4	4	4
(ADJUST LEVEL D per WORK PLAN)	MINUTES	N/A	15	15	15	15
TOTAL			60	60	60	60
COOLDOWNS PER DAY	QUANTITY	N/A	4	4	4	4
** (4 OUT OF 12 MONTHS) 33.33%	MINUTES	N/A	15	15	15	15
TOTAL			20	20	20	20
AIR TANK REPLACEMENT	QUANTITY	N/A	N/A	N/A	N/A	N/A
	MINUTES	N/A	N/A	N/A	N/A	N/A
TOTAL						
AVAILABLE WORK TIME		575	465	420	420	405
AVAILABLE WORK TIME FACTOR		**0.96**	**0.78**	**0.7**	**0.7**	**0.68**

NOTE: Adjust 'Work Minutes per Day' basis to: 5 - 8's, or leave as 4 - 10's. Any other circumstances, over-ride the minutes per day.

** Assumption based on work performed in May, June, July & August, pro-rating cost over one year. Adjust % to individual circumstances.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: OSDF Control & Management FY08
ESTIMATE NO. C20105011(S)FY08
CLIENT: DOE
WBS NO.: 1.1.C.E

DATE: 12-Sep-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

Fluor Fernald, Inc.

PPE"s - PERSONAL PROTECTIVE EQUIPMENT

DESCRIPTION	UNIT	UNIT COST	*	* NO. OF CHANGE OUTS PER WORKER PER DAY Man Days (TOTAL HOURS worked in PPE's Div. by WORK HOURS / DAY) MAN DAYS	MAT'L.$'s	PPE LEVEL	
PPE LEVEL C / C+ / B : F/HF MASK w/RESP.&CART.							
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	(DOUBLE PPE)
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	C / C+	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	C / C+	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	C / C+	
APR CARTRIDGES - DISPOSABLE	PR	$6.98	3	0	$0	C / C+	
SUB-TOTAL		$17.42	3		$0		
				$/MD =	$0.00		

PPE LEVEL mC : FULL DRESS w/ FACE SHIELD				MAN DAYS	MAT'L.$'s	PPE LEVEL
LT.WT. DISPOSABLE COVERALLS W/HOOD & BOOTIE	PR	$4.46	3	0	$0	mC
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	mC
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	mC
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	mC
SUB-TOTAL		$5.98	3		$0	
				$/MD =	$0.00	

SUBCONTRACTOR REQUIRED PURCHASES			QTY. PER WKR.	NO. OF WORKERS	MAT'L.$'s	PPE LEVEL
RUBBER BOOT COVERS-(1)PR.PER WORKER	PR	$12.70	6	0	$0	D/C/B
APR w/HALF FACE MASK - (1) PER WORKER	EA	$22.30	6	0	$0	C
APR w/FULL FACE MASK - (1) PER WORKER	EA	$174.00	6	0	$0	C
SCBA	EA	$1,894.00	2	0	$0	B
COOL VESTS	EA	$137.50	6	0	$0	C/B
THERMO STRIPS	EA	$50.00	6	0	$0	C/B
SUB-TOTAL					$0	

	MAT'L.$'s
TOTAL PPE's =	$0

(FORWARD TO PAGE 2 OF 2)

OTHER PPE's SUCH AS HARD HAT, SAFETY GLASSES/GOGGLES, STEEL TOED SAFETY SHOES, HEARING PROTECTION, ARE CONSIDERED THE SUBCONTRACTORS RESPONSIBILITY AND ARE COVERED IN HIS OVERHEAD EXPENSE.
COSTS OF FD FERNALD SUPPLIED PPE's, SUCH AS COTTON COVERALLS, EXCHANGE OF RUBBER BOOT COVERS AND RESPIRATORS FOR CHANGEOUTS AND CLEANING OF SAME IS INCURRED BY FD FERNALD AND COSTS ARE NOT INCLUDED AS PART OF PROJECT COSTS AT THIS TIME.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: OSDF Control & Management FY08
ESTIMATE NO. C20105011(S)FY08
CLIENT: DOE
WBS NO.: 1.1.C.E

DATE: 12-Sep-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

--MEDICAL MONITORING --

MEDICAL - PHYSICAL and IN-VIVO MONITORING - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION PHYSICAL (3hrs), IN-VIVO (1hr)	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $
BASELINE PHYSICALS	1	4	0	0	$23.80	$0
ANNUAL PHYSICALS	1	4	0	0	$23.80	$0
EXIT (TERMINATION) PHYSICALS (IN-VIVO)	1	1	0	0	$23.80	$0
SUB-TOTAL						$0

RADIATION IN-VITRO SURVEILLANCE - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $
BI-MONTHLY BIOASSAY	6	1	0	0	$23.80	$0
SUB-TOTAL						$0

RANDOM DRUG TESTING

	TESTS	HRS	TOTAL HOURS	AVG. RATE	LABOR $'s
	4	2	8	$23.80	$200

NO. OF WKRS. TESTED	TESTING DAYS PER YR.	AVG. NO. OF TESTS PER DAY	CHANCE/ DAY FOR TEST	NO. OF WKRS. FOR THIS ESTIMATE	CHANCES /DAY FOR TEST FOR PROJECT	CONSTR WORKING DAYS
2340	226	10	0.0042735	4	0.0171	227

		LABOR $'s THRU SAFETY	LABOR $'s
WORK DELAYS CAUSED BY MONITORING	0.0%	$163,595	$0
			LABOR $'s
WORK DELAYS CAUSED BY RAD CHECKING	0.0%	$163,595	$0

	TOTAL LABOR	TOTAL MAT'L.	GRAND TOTAL
TOTAL HEALTH PHYSICS	$200	$0	$200

(FORWARD TO ESTIMATE SUMMARY SHEET)

ACTIVITY DURATIONS

Fluor Fernald, Inc.

PROJECT: OSDF Control & Management FY08
ESTIMATE NO. C20105011(S)FY08
CLIENT: DOE
WBS NO.: 1.1.C.E

DATE: 12-Sep-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION
CONSTRUCTION:	01-May-01	01-Oct-07	31-Mar-08	30-Sep-08	12.0	MONTHS
					0	MONTHS
TOTAL					12.0	MONTHS

	DATE of EST. to MID-POINT ACTIVITY DURATION	
a.	83.1	MONTHS
b.	0	MONTHS

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION
OPERATIONS					0	MONTHS

DATE of EST. to MID-POINT ACTIVITY DURATION	
0	MONTHS

ACTIVITY DURATION IS USED IN DETERMINING NUMBER of WORKERS for CERCLA/SAT TRAINING HOURS and HEALTH PHYSICS COSTS.

ESTIMATE SUMMARY SHEET

Fluor Fernald, Inc.

PROJECT:	OSDF Control & Management FY09	DATE:	12-Sep-01
ESTIMATE #:	C20105011(S)FY09	ESTIMATOR:	T.WAGNER
CLIENT:	DOE	LOCATION:	Fernald
WBS #:	1.1.C.D	TASK NO.:	CDG11

ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	EQUIP. $	TOTAL $
OSDF Control & Management FY09	5,770		$137,310	$2,500	$46,020	$64,630	$250,460
DIRECT FIELD COSTS TOTAL	**5,770**	**$23.80**	**$137,310**	**$2,500**	**$46,020**	**$64,630**	**$250,460**
SUPERVISION - CONTRACTOR	981		$26,285				$26,285
SMALL TOOLS & CONSUMABLES	-	-	-				
MISC. EQUIP. RENTAL	-	-	-				
TEMPORARY FACILITIES							
TEMPORARY UTILITY HOOK-UP							
JOB CLEAN-UP							
PER DIEM / SUBSISTANCE	-	-	-				
HEALTH PHYSICS S/C	8		$200				$200
CERCLA - TRAINING							
GET/SITE ACCESS & JOB SPECIFIC TRAINING	72		$1,700				$1,700
PAYROLL BURDENS & BENEFITS	-	-	$94,300				$94,300
OVERHEAD & PROFIT	-	-	-	$74,600			$74,600
BOND	-	-	-	$5,800			$5,800
SALES TAX	-	-	-		$2,800	$3,900	$6,700
INDIRECT FIELD COSTS TOTAL	**1,061**		**$122,485**	**$80,400**	**$2,800**	**$3,900**	**$209,585**
DIRECT & INDIRECT FIELD COSTS TOTAL	**6,831**	**$38.03**	**$259,795**	**$82,900**	**$48,820**	**$68,530**	**$460,045**
TARGET ESTIMATE			**(FY 01 DOLLARS)**				**$460,045**

ESTIMATE PERFORMED BY ESTIMATING SERVICES

ESTIMATE SUMMARY SHEET

PROJECT: OSDF Control & Management FY09 | **DATE:** 12-Sep-01

ESTIMATE NO. C20105011(S)FY09 | **ESTIMATOR:** T.WAGNER

CLIENT: DOE | **LOCATION:** Fernald

WBS NO.: 1.1.C.D | **TASK NO.:** CDG11

FACTORS

FIXED PRICE $	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
DFC DOLLARS	$137,310	$2,500	$46,020	$64,630		$250,460
IFC COST FACTOR	1.8920	–	1.0000	1.0000	–	
BOND + OVERHEAD & PROFIT COST FACTOR	1.2118	1.2118	1.2118	1.2118	1.2118	
SALES TAX	-	-	1.0600	1.0600	1.0600	
DIRECT FIELD COST FACTOR =	**2.2927**	**1.2118**	**1.2845**	**1.2845**	**1.2845**	
BASE ESTIMATE $'s	$314,814	$3,029	$59,112	$83,016		$459,971
BASE FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	
TARGET ESTIMATE FACTOR	**2.2927**	**1.2118**	**1.2845**	**1.2845**	**1.2845**	
FPS TARGET ESTIMATE (FY00 $)	$314,814	$3,029	$59,112	$83,016		$459,971

NOTE:

If there are no DFC Equip. $, enter The IFC Equip. $'s into the direct field cost TOTAL and delete IFC Factor in G65.

ESTIMATE SUMMARY SHEET

PROJECT: OSDF Control & Management FY09 | **DATE:** 12-Sep-01

ESTIMATE NO. C20105011(S)FY09 | **ESTIMATOR:** T.WAGNER

CLIENT: DOE | **LOCATION:** Fernald

WBS NO.: 1.1.C.D | **TASK NO.:** CDG11

Direct Field Cost w / F A C T O R S

PAY ITEM NO.	DESCRIPTION	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
		(ASSIGN OR PRORATE PPE MAT'L.$'s)-->>					
	OSDF Control & Management FY09	137310	2500	46020	64630		
		$314,810	$3,030	$59,110	$83,020		$459,970
TOTAL DIRECT FIELD COSTS w/FACTORS		(FY01 DOLLARS)					$459,970

DETAIL ESTIMATE WORKSHEETS

Fluor Fernald, Inc.

PROJECT: OSDF Control & Management FY09
ESTIMATE NO.: C20105011(S)FY09
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

ITEM NO.	SUMMARY	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST / UNIT Labor	COST / UNIT S/C	COST / UNIT Mat'l	COST / UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	OSDF Control & Management FY09				5,770						$137,310	$2,500	$46,020	$64,630	$250,460
	Subtotal Direct Cost	1	LOT		5,770	$23.80					$137,310	$2,500	$46,020	$64,630	$250,460

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF Control & Management FY09
ESTIMATE NO.: C20105011(S)FY09
CLIENT: DOE
WBS NO.: 1.1.C.D

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

PPE Level	OSDF Control & Management FY09	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	1. Repair Silt Fence														
D	2 Laborer@10 hr/day 2x's mo.for 1 yr	2	ea	240	480	20.59					$9,880		$2,000		$11,880
	2. Check dams, drainage, channel clearing and repair, temp. culvert cleaning														
D	2 Laborer@10 hr/day,2x's mo.for 3mo	2	ea	60	120	20.59					$2,470				$2,470
	Material allowance	1	ls						3,000				$3,000		$3,000
D	Operator and Cat416C	30	hr	1	30	24.57				25.00	$740			$750	$1,490
	3. Sediment basin cleaning & repair once a year.														
D	Operator and CAT330 for 2 days,10hr. e	20	hr	1	20	24.57				99.74	$490			$1,990	$2,480
D	Teamster and Volvo Truck	20	hr	1	20	20.78				73.62	$420			$1,470	$1,890
D	2 Laborers for 2 days	20	hr	2	40	20.59					$820				$820
	4. Application of surfactant once a year.														
D	35 acres application	3,500	gal						4.50				$15,750		$15,750
D	Hydroseeder	6	day							250.00				$1,500	$1,500
D	Laborers 2ea. @ 6 days/10hr	60	hr	2	120	20.59					$2,470				$2,470
D	Teamster 1 ea. @ 6 days/10hr	60	hr	1	60	20.78					$1,250				$1,250
	5. Catchment area control & M67														
	5A: 20 days of pumping / yr														
D	Laborers 2ea. 4hrs ea day	80	hr	2	160	20.59					$3,290				$3,290
D	Teamster 1ea. 2 hrs ea day	40	hr	1	40	20.78					$830				$830
D	Electric pump 3"	200	hr						2.14				$430		$430
	5B: Remove silt from catchment 2x's/yr 5days x 2 catchments x 2 times														
D	Laborers 2ea. 4hrs ea day	80	hr	2.0	160	20.59					$3,290				$3,290
D	Operator 1ea. 4hrs ea day	80	hr	1.0	80	24.57					$1,970				$1,970
D	Electric pump 3"	80	hr						2.14				$170		$170
D	PosiTrac	80	hr						14.63				$1,170		$1,170
D	CAT330	80	hr							99.74				$7,980	$7,980

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF Control & Managomont FY09
ESTIMATE NO.: C20105011(S)FY09
CLIENT: DOE
WBS NO.: 1.1.C.D

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

ITEM NO.	OSDF Control & Management FY09	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	6. Winterization of access control trailers														
D	Material allowance	1	ls						2,000				$2,000		$2,000
D	Carpenter 2ea 2days/yr	20	hr	2	40	22.82					$910				$910
	7. Installation & repair signs, barricades, & fences														
D	Material allowance	1	ls						5,000				$5,000		$5,000
D	Laborer 2ea x 2 day x 12 month	240	hr	2	480	20.59					$9,880				$9,880
	8. Repair of paved & unpaved roads														
	8A: Unpaved 500ton/yr 20 days														
D	Operator 2ea	200	hr	2	400	24.57					$9,830				$9,830
D	Teamster 1ea	200	hr	1	200	20.78					$4,160				$4,160
D	Foreman 1 ea	200	hr	1	200	21.59					$4,320				$4,320
D	Stone #304	500	tn						13.00				$6,500		$6,500
D	CAT D-6	200	hr							63.28				$12,660	$12,660
D	CAT 563 compactor	200	hr							40.98				$8,200	$8,200
D	CAT 613 ww	200	hr							83.19				$16,640	$16,640
	8B: Asphalt 300' x 25' = 7500sf														
D	Bituminous asphalt install. 3" thick		sf					5.93							
	9. Maint/repair const wells, temp. water lines														
	9A: Maint. Const wells - Subcontract	1	ls					2,500				$2,500			$2,500
	9B: Maint./repair temp water lines														
	Material allowance	1	ls						10,000				$10,000		$10,000
D	Pipe fitter 1ea 50 hrs/wk for 1 yr	2,600	hr	1	2,600	26.40					$68,630				$68,630

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF Control & Management FY09
ESTIMATE NO.: C20105011(S)FY09
CLIENT: DOE
WBS NO.: 1.1.C.D

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

ITEM NO.	OSDF Control & Management FY09	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	10. Repair seeded areas on permanent cap & borrow area														
	CAT D-4	100	hr							34.73				$3,470	$3,470
	CAT 330	100	hr							99.74				$9,970	$9,970
D	Operator 2ea 5days x 2 /yr	100	hr	2	200	24.57					$4,910				$4,910
D	Laborer 2ea 5 days x 2/yr	100	hr	2	200	20.59					$4,120				$4,120
	11. OSDF equipment wash maint.														
D	Laborer 2ea : 2days x 2 seasons	40	hr	2	80	20.59					$1,650				$1,650
D	Operator 1ea : 2days x 2 seasons	40	hr	1	40	24.57					$980				$980
	Subtotal Direct Cost	1	LOT		5,770	$23.80					137,310	2,500	46,020	64,630	$250,460

APPENDIX " A"

PROJECT: OSDF Control & Management FY09
ESTIMATE NOC20105011(S)FY09
CLIENT: DOE
WBS NO.: 1.1.C.D

SITE SPECIFIC

EFFICIENCY / MULTIPLIER ANALYSIS

DATE: 17-May-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

PERCENT OF INFLUENCE ON CHART MANHOURS	40%	50%	60%	70%	80%	90%	100%	105%	110%	% OF INFLUENCE	WT'D VALUE	PROD. RESULT
CRAFT SKILL (NOTE 1)	POOR			FAIR			STD	V.GOOD	XCELLENT	100.0%	12.0%	0.12
CRAFT AVAIL.(NOTE 1)		POOR		FAIR			STD			100.0%	8.0%	0.08
CLIMATE (NOTE 2)	SEVERE	ICE/SNOW			RAIN		+40 TO +85			90.0%	20.0%	0.18
PLANT ELEVATION		OVER 10,000FT			5,000' TO 10,000 FT		UNDER 5,000 FT			100.0%	5.0%	0.05
WORK SPACE				200 SF	250 SF	300 SF	350 SF			100.0%	10.0%	0.1
	<---- MULTIPLE SHIFTS-											
WORK WEEK							4-10s / 5-8s			100.0%	15.0%	0.15
50 HOUR WORK WEEK	////////// //// MULTIPLE-SHIFT ////	//////////	//////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS				0.0%	0.0%	0
60 HOUR WORK WEEK	////////// //////////	////////// //////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS					0.0%	0.0%	0
SHIFTWORK							OR					
2ND SHIFT					2ND SHIFT		ONE SHIFT			100.0%	3.0%	0.03
3RD SHIFT			3RD SHIFT				ONLY			100.0%	5.0%	0.05
PROJECT SIZE					400M MH AND UP	300M TO 400M MH	200M TO 300M MH	200M MH OR LESS		100.0%	4.0%	0.04
PLANT TYPE				REVAMP ONLY	REVAMP & NEW	NEW IN EXIST PLT	GRASS ROOTS			90.0%	8.0%	0.072
AREA/UNION INFLUENCE	STRONG		MILD		SOME		NONE			40.0%	10.0%	0.04
											100.0%	91.2%

NOTES.....
1. TURNOVER HAS BEEN CONSIDERED
2. FOR EXTERIOR WORK ONLY

EFFICIENCY (AS A % OFF CHART MANHOURS) 91.2%

MULTIPLIER - (TO BE APPLIED TO CHART M.H.'S TO OBTAIN SITE M.H.'S) 1.10

EFFICIENCY FACTORS

PROJECT: OSDF Control & Management FY09
ESTIMATE NO. C20105011(S)FY09
CLIENT: DOE
WBS NO.: 1.1.C.D

Fluor Fernald, Inc.

DATE: 12-Sep-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

EXAMPLE:

STANDARD CHART MANHOURS =	NET	100
EFFICIENCY FACTORS:		
* SITE SPECIFIC (SEE APPENDIX A)	[redacted]	10.0
S/T = BASE UNIT MANHOURS		110
OVERTIME PRODUCTIVITY FACTOR (SEE DETAIL WORKSHEET BACK-UP)	0.00%	0
		110
* TASK SPECIFIC (confined space, high elevation, congestion, etc.)	0.0%	0
		110

* PPE SPECIFIC (Based on current data and estimating knowledge)

	PPE LEVEL									
	D		Mod.'D'		Mod. "C"		C		C+	
PRODUCTIVITY HOURS		MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's
(AS A %) / ADD MH's	4.00%	4	28.00%	31	66.00%	73	74.00%	81	96.00%	106
(AS A MULTIPLIER)/TOTAL HRS	1.04	114.4	1.28	140.8	1.66	182.6	1.74	191.4	1.96	215.6
TOTAL MULTIPLIER w/SITE PROD.	1.144		1.408		1.826		1.914		2.156	-

NOTE : Use the Default Productivity Factor of 'mC' for working in a contaminated area if the Safety Level cannot be determined.

(SEE FD FERNALD ESTIMATING SERVICES REFERENCE MANUAL IM-6006 8.10)

Total hours worked in a specific PPE level divided by 10 hour working days = (PPE) ManDays to determine material cost of PPE's. (SEE APPENDIX C - HEALTH PHYSICS)

	11.0	Man Days	14.0	Man Days	18.0	Man Days	19.0	Man Days	22.0	Man Days

THESE EFFICIENCY FACTORS WERE APPLIED INDIVIDUALLY THROUGHOUT THE ESTIMATE AT A TASK SPECIFIC LEVEL, TO OBTAIN A MORE ACCURATE ACCOUNT OF OVERALL EFFICIENCY IMPACT DUE TO PPE REQUIREMENTS IN HANDLING CONTAMINATED AND HAZARDOUS WASTE.

EFFICIENCY FACTORS

PROJECT: OSDF Control & Management FY09
ESTIMATE NO. C20105011(S)FY09
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 12-Sep-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

PPE MULTIPLIER DEVELOPEMENT

		D	mD	mC	C	C+
CREW SIZE & MAKE-UP	STANDARD	7	7	7	7	7
	WORKER-BUDDY	0	0	0	0	0
	SUPPORT TEAM	0	0	0	0	0
	TOTAL CREW	7	7	7	7	7
CREW SIZE RATIO		1.00	1.00	1.00	1.00	1.00
AVAILABLE WORK TIME FACTOR		0.96	0.78	0.7	0.7	0.68
PPE LABOR PRODUCTIVITY FACTOR		1	1	0.86	0.82	0.75
NET PRODUCTIVITY RATIO		0.96	0.78	0.602	0.574	0.51
NET PRODUCTIVITY MULTIPLIER		**1.04**	**1.28**	**1.66**	**1.74**	**1.96**

These factors were based on Tables 6.1 and 6.2, Moderate Work Efforts, 66F to 85F temperature of 'Hazardous Waste Cost Control' by R.A.Selg.
Modifications were made to reflect a 10 hour work day and no buddy system or support team for levels D, mC and C.
The worker-buddy and support team members, if required, may be covered under Construction Mgmt. (Rad Techs).

AVAILABLE WORK TIME FACTOR		D	mD	mC	C	C+
TOTAL WORK MINUTES per [4 - 10's		600	600	600	600	600
ADDITN'L.SITE SAFETY MEETINGS NOT INCLD. IN BAS	QUANTITY	1	1	1	1	1
	MINUTES	25	25	25	25	25
TOTAL		25	25	25	25	25
PPE DON & DOFFING	QUANTITY	0	0	3	3	3
(ADJUST LEVEL D per WORK PLAN)	MINUTES	0	0	15	15	20
TOTAL			0	45	45	60
WORK BREAKS	QUANTITY	N/A	2	2	2	2
(ADJUST LEVEL D per WORK PLAN)	MINUTES	N/A	15	15	15	15
TOTAL			30	30	30	30
MOBILIZATION - ROUND TRIPS	QUANTITY	N/A	4	4	4	4
(ADJUST LEVEL D per WORK PLAN)	MINUTES	N/A	15	15	15	15
TOTAL			60	60	60	60
COOLDOWNS PER DAY	QUANTITY	N/A	4	4	4	4
** (4 OUT OF 12 MONTHS) 33.33%	MINUTES	N/A	15	15	15	15
TOTAL			20	20	20	20
AIR TANK REPLACEMENT	QUANTITY	N/A	N/A	N/A	N/A	N/A
	MINUTES	N/A	N/A	N/A	N/A	N/A
TOTAL						
AVAILABLE WORK TIME		575	465	420	420	405
AVAILABLE WORK TIME FACTOR		**0.96**	**0.78**	**0.7**	**0.7**	**0.68**

NOTE: Adjust 'Work Minutes per Day' basis to: 5 - 8's, or leave as 4 - 10's . Any other circumstances, over-ride the minutes per day.

** Assumption based on work performed in May, June, July & August, pro-rating cost over one year. Adjust % to individual circumstances.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: OSDF Control & Management FY09
ESTIMATE NO. C20105011(S)FY09
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 12-Sep-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

Fluor Fernald, Inc.

PPE"s - PERSONAL PROTECTIVE EQUIPMENT

DESCRIPTION	UNIT	UNIT COST	* NO. OF CHANGE OUTS PER WORKER PER DAY	Man Days (TOTAL HOURS worked in PPE's Div. by WORK HOURS / DAY)			
PPE LEVEL C / C+ / B : F/HF MASK w/RESP.&CART.			*	MAN DAYS	MAT'L.$'s	PPE LEVEL	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	(DOUBLE PPE)
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	C / C+	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	C / C+	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	C / C+	
APR CARTRIDGES - DISPOSABLE	PR	$6.98	3	0	$0	C / C+	
SUB-TOTAL		$17.42	3		$0		
				$/MD =	$0.00		

PPE LEVEL mC : FULL DRESS w/ FACE SHIELD				MAN DAYS	MAT'L.$'s	PPE LEVEL
LT.WT. DISPOSABLE COVERALLS W/HOOD & BOOTIE	PR	$4.46	3	0	$0	mC
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	mC
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	mC
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	mC
SUB-TOTAL		$5.98	3		$0	
				$/MD =	$0.00	

SUBCONTRACTOR REQUIRED PURCHASES			QTY. PER WKR.	NO. OF WORKERS	MAT'L.$'s	PPE LEVEL
RUBBER BOOT COVERS-(1)PR.PER WORKER	PR	$12.70	6	0	$0	D/C/B
APR w/HALF FACE MASK - (1) PER WORKER	EA	$22.30	6	0	$0	C
APR w/FULL FACE MASK - (1) PER WORKER	EA	$174.00	6	0	$0	C
SCBA	EA	$1,894.00	2	0	$0	B
COOL VESTS	EA	$137.50	6	0	$0	C/B
THERMO STRIPS	EA	$50.00	6	0	$0	C/B
SUB-TOTAL					$0	

	MAT'L.$'s
TOTAL PPE's =	$0

(FORWARD TO PAGE 2 OF 2)

OTHER PPE's SUCH AS HARD HAT, SAFETY GLASSES/GOGGLES, STEEL TOED SAFETY SHOES, HEARING PROTECTION, ARE CONSIDERED THE SUBCONTRACTORS RESPONSIBILITY AND ARE COVERED IN HIS OVERHEAD EXPENSE.
COSTS OF FD FERNALD SUPPLIED PPE's, SUCH AS COTTON COVERALLS, EXCHANGE OF RUBBER BOOT COVERS AND RESPIRATORS FOR CHANGEOUTS AND CLEANING OF SAME IS INCURRED BY FD FERNALD AND COSTS ARE NOT INCLUDED AS PART OF PROJECT COSTS AT THIS TIME.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: OSDF Control & Management FY09
ESTIMATE NO. C20105011(S)FY09
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 12-Sep-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

--MEDICAL MONITORING --

MEDICAL - PHYSICAL and IN-VIVO MONITORING - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION PHYSICAL (3hrs), IN-VIVO (1hr)	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $
BASELINE PHYSICALS	1	4	0	0	$23.80	$0
ANNUAL PHYSICALS	0	4	0	0	$23.80	$0
EXIT (TERMINATION) PHYSICALS (IN-VIVO)	1	1	0	0	$23.80	$0
SUB-TOTAL						$0

RADIATION IN-VITRO SURVEILLANCE - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $
BI-MONTHLY BIOASSAY	6	1	0	0	$23.80	$0
SUB-TOTAL						$0

RANDOM DRUG TESTING

	TESTS	HRS	TOTAL HOURS	AVG. RATE	LABOR $'s
	4	2	8	$23.80	$200

NO. OF WKRS. TESTED	TESTING DAYS PER YR.	AVG. NO. OF TESTS PER DAY	CHANCE/ DAY FOR TEST	NO. OF WKRS. FOR THIS ESTIMATE	CHANCES /DAY FOR TEST FOR PROJECT	CONSTR WORKING DAYS
2340	226	10	0.0042735	4	0.0171	226

		LABOR $'s THRU SAFETY	LABOR $'s
WORK DELAYS CAUSED BY MONITORING	0.0%	$163,595	$0
			LABOR $'s
WORK DELAYS CAUSED BY RAD CHECKING	0.0%	$163,595	$0

	TOTAL LABOR	TOTAL MAT'L.	GRAND TOTAL
TOTAL HEALTH PHYSICS	$200	$0	$200

(FORWARD TO ESTIMATE SUMMARY SHEET)

APPENDIX "D"

ACTIVITY DURATIONS

Fluor Fernald, Inc.

PROJECT: OSDF Control & Management FY09
ESTIMATE NO. C20105011(S)FY09
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 12-Sep-01
ESTIMATOR: T.WAGNER
LOCATION: Fernald
TASK NO.: CDG11

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION
CONSTRUCTION:	01-May-01	01-Oct-08	01-Apr-09	30-Sep-09	12.0	MONTHS
					0	MONTHS
TOTAL					12.0	MONTHS

	DATE of EST. to MID-POINT ACTIVITY DURATION	
a.	95.1	MONTHS
b.	0	MONTHS

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION
OPERATIONS					0	MONTHS

DATE of EST. to MID-POINT ACTIVITY DURATION	
0	MONTHS

ACTIVITY DURATION IS USED IN DETERMINING NUMBER of WORKERS for CERCLA/SAT TRAINING HOURS and HEALTH PHYSICS COSTS.

ESTIMATE SUMMARY SHEET

Fluor Fernald, Inc.

PROJECT: OSDF Control & Management FY10
ESTIMATE #: C20105-11(S)FY10
CLIENT: DOE
WBS #: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: Name
LOCATION: Fernald
TASK NO.: CDG11

ITEM DESCRIPTION	M/H	RATE	LABOR $	S/C $	MAT'L $	EQUIP. $	TOTAL $
OSDF Control & Management FY10 REDUCED BY 1/8	721		$17,164	$313	$5,753	$8,079	$31,308
DIRECT FIELD COSTS TOTAL	**721**	**$23.80**	**$17,164**	**$313**	**$5,753**	**$8,079**	**$31,308**
SUPERVISION - CONTRACTOR	123		$3,286				$3,286
SMALL TOOLS & CONSUMABLES	-	-	-				
MISC. EQUIP. RENTAL	-	-	-				
TEMPORARY FACILITIES							
TEMPORARY UTILITY HOOK-UP							
JOB CLEAN-UP							
PER DIEM / SUBSISTANCE	-	-	-				
HEALTH PHYSICS S/C							
CERCLA - TRAINING							
GET/SITE ACCESS & JOB SPECIFIC TRAINING	18		$400				$400
PAYROLL BURDENS & BENEFITS	-	-	$11,900				$11,900
OVERHEAD & PROFIT	-	-	-	$9,400			$9,400
BOND	-	-	-	$700			$700
SALES TAX	-	-	-		$300	$500	$800
INDIRECT FIELD COSTS TOTAL	**141**		**$15,586**	**$10,100**	**$300**	**$500**	**$26,486**
DIRECT & INDIRECT FIELD COSTS TOTAL	**862**	**$38.00**	**$32,749**	**$10,413**	**$6,053**	**$8,579**	**$57,793**
TARGET ESTIMATE			**(FY 01 DOLLARS)**				**$57,793**

ESTIMATE PERFORMED BY ESTIMATING SERVICES

ESTIMATE SUMMARY SHEET

PROJECT: OSDF Control & Management FY10 | DATE: 17-May-01

ESTIMATE NO. C20105-11(S)FY10 | **F A C T O R S** | ESTIMATOR: Name

CLIENT: DOE | LOCATION: Fernald

WBS NO.: 1.1.C.D | TASK NO.: CDG11

FIXED PRICE S	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
DFC DOLLARS	$17,164	$313	$5,753	$8,079		$31,308
IFC COST FACTOR	1.9081	--	1.0000	1.0000	--	
BOND + OVERHEAD & PROFIT COST FACTOR	1.2118	1.2118	1.2118	1.2118	1.2118	
SALES TAX	-	-	1.0600	1.0600	1.0600	
DIRECT FIELD COST FACTOR =	2.3121	1.2118	1.2845	1.2845	1.2845	
BASE ESTIMATE $'s	$39,685	$379	$7,389	$10,377		$57,829
BASE FACTOR	1.0000	1.0000	1.0000	1.0000	1.0000	
TARGET ESTIMATE FACTOR	2.3121	1.2118	1.2845	1.2845	1.2845	
FPS TARGET ESTIMATE (FY00 $)	$39,685	$379	$7,389	$10,377		$57,829

NOTE:

If there are no DFC Equip. $, enter The IFC Equip. $'s into the direct field cost TOTAL and delete IFC Factor in G65.

ESTIMATE SUMMARY SHEET

PROJECT: OSDF Control & Management FY10 | DATE: 17-May-01

ESTIMATE NO. C20105-11(S)FY10 | ESTIMATOR: Name

Direct Field Cost w/FACTORS

CLIENT: DOE | LOCATION: Fernald

WBS NO.: 1.1.C.D | TASK NO.: CDG11

PAY ITEM NO.	DESCRIPTION	LABOR $	S/C $	MAT'L. $	EQUIP. $	PPE $	TOTAL $
		(ASSIGN OR PRORATE PPE MAT'L.$'s)-->>					
	OSDF Control & Management FY10	17164	313	5753	8079		
		$39,680	$380	$7,390	$10,380		$57,830
	REDUCED BY 1/8						
TOTAL DIRECT FIELD COSTS w/FACTORS		(FY01 DOLLARS)					$57,830

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF Control & Management FY10
ESTIMATE NO.: C20105-11(S)FY10
CLIENT: DOE
WBS NO.: 1.1.C.D

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: Name
LOCATION: Fernald
TASK NO.: CDG11

ITEM NO.	SUMMARY	QTY	UNIT	MAN-HOURS			COST / UNIT				LABOR	S/C	MAT'L	EQUIP	TOTAL
				Unit	Total	Rate	Labor	S/C	Mat'l	Equip					
	OSDF Control & Management FY10				5,770						$137,310	$2,500	$46,020	$64,630	$250,460
	REDUCED BY 1/8				721						$17,164	$313	$5,753	$8,079	$31,308
	Subtotal Direct Cost	1	LOT		6,491	$23.80					$154,474	$2,813	$51,773	$72,709	$281,769

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF Control & Management FY10
ESTIMATE NO.: C20105-11(S)FY10
CLIENT: DOE
WBS NO.: 1.1.C.D

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: Name
LOCATION: Fernald
TASK NO.: CDG11

PPE Level	OSDF Control & Management FY10	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	1. Repair Silt Fence														
D	2 Laborer@10 hr/day 2x's mo.for 1 yr	2	ea	240	480	20.59					$9,880		$2,000		$11,880
	2. Check dams, drainage, channel clearing and repair, temp. culvert cleaning														
D	2 Laborer@10 hr/day,2x's mo.for 3mo	2	ea	60	120	20.59					$2,470				$2,470
	Material allowance	1	ls						3,000				$3,000		$3,000
D	Operator and Cat416C	30	hr	1	30	24.57				25.00	$740			$750	$1,490
	3. Sediment basin cleaning & repair once a year.														
D	Operator and CAT330 for 2 days,10hr. e	20	hr	1	20	24.57				99.74	$490			$1,990	$2,480
D	Teamster and Volvo Truck	20	hr	1	20	20.78				73.62	$420			$1,470	$1,890
D	2 Laborers for 2 days	20	hr	2	40	20.59					$820				$820
	4. Application of surfactant once a year.														
D	35 acres application	3,500	gal						4.50				$15,750		$15,750
D	Hydroseeder	6	day							250.00				$1,500	$1,500
D	Laborers 2ea. @ 6 days/10hr	60	hr	2	120	20.59					$2,470				$2,470
D	Teamster 1 ea. @ 6 days/10hr	60	hr	1	60	20.78					$1,250				$1,250
	5. Catchment area control & M67														
	5A: 20 days of pumping / yr														
D	Laborers 2ea. 4hrs ea day	80	hr	2	160	20.59					$3,290				$3,290
D	Teamster 1ea. 2 hrs ea day	40	hr	1	40	20.78					$830				$830
D	Electric pump 3"	200	hr						2.14				$430		$430
	5B: Remove silt from catchment 2x's/yr 5days x 2 catchments x 2 times														
D	Laborers 2ea. 4hrs ea day	80	hr	2.0	160	20.59					$3,290				$3,290
D	Operator 1ea. 4hrs ea day	80	hr	1.0	80	24.57					$1,970				$1,970
D	Electric pump 3"	80	hr						2.14				$170		$170
D	PosiTrac	80	hr						14.63				$1,170		$1,170
D	CAT330	80	hr							99.74				$7,980	$7,980

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF Control & Management FY10
ESTIMATE NO.: C20105-11(S)FY10
CLIENT: DOE
WBS NO.: 1.1.C.D

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: Name
LOCATION: Fernald
TASK NO.: CDG11

ITEM NO.	OSDF Control & Management FY10	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	6. Winterization of access control trailers														
D	Material allowance	1	ls						2,000				$2,000		$2,000
D	Carpenter 2ea 2days/yr	20	hr	2	40	22.82					$910				$910
	7. Installation & repair signs, barricades, & fences														
D	Material allowance	1	ls						5,000				$5,000		$5,000
D	Laborer 2ea x 2 day x 12 month	240	hr	2	480	20.59					$9,880				$9,880
	8. Repair of paved & unpaved roads														
	8A: Unpaved 500ton/yr 20 days														
D	Operator 2ea	200	hr	2	400	24.57					$9,830				$9,830
D	Teamster 1ea	200	hr	1	200	20.78					$4,160				$4,160
D	Foreman 1 ea	200	hr	1	200	21.59					$4,320				$4,320
D	Stone #304	500	tn						13.00				$6,500		$6,500
D	CAT D-6	200	hr							63.28				$12,660	$12,660
D	CAT 563 compactor	200	hr							40.98				$8,200	$8,200
D	CAT 613 ww	200	hr							83.19				$16,640	$16,640
	8B: Asphalt 300' x 25' = 7500sf														
D	Bituminous asphalt install. 3" thick														
	9. Maint/repair const wells, temp. water lines														
	9A: Maint. Const wells - Subcontract	1	ls					2,500				$2,500			$2,500
	9B: Maint./repair temp water lines														
	Material allowance	1	ls						10,000				$10,000		$10,000
D	Pipe fitter 1ea 50 hrs/wk for 1 yr	2,600	hr	1	2,600	26.40					$68,630				$68,630

DETAIL ESTIMATE WORKSHEETS

PROJECT: OSDF Control & Management FY10
ESTIMATE NO.: C20105-11(S)FY10
CLIENT: DOE
WBS NO.: 1.1.C.D

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: Name
LOCATION: Fernald
TASK NO.: CDG11

ITEM NO.	OSDF Control & Management FY10	QTY	UNIT	MAN-HOURS Unit	MAN-HOURS Total	MAN-HOURS Rate	COST/UNIT Labor	COST/UNIT S/C	COST/UNIT Mat'l	COST/UNIT Equip	LABOR	S/C	MAT'L	EQUIP	TOTAL
	10. Repair seeded areas on permanent cap & borrow area														
	CAT D-4	100	hr							34.73				$3,470	$3,470
	CAT 330	100	hr							99.74				$9,970	$9,970
D	Operator 2ea 5days x 2 /yr	100	hr	2	200	24.57					$4,910				$4,910
D	Laborer 2ea 5 days x 2/yr	100	hr	2	200	20.59					$4,120				$4,120
	11. OSDF equipment wash maint.														
D	Laborer 2ea : 2days x 2 seasons	40	hr	2	80	20.59					$1,650				$1,650
D	Operator 1ea : 2days x 2 seasons	40	hr	1	40	24.57					$980				$980
	Subtotal Direct Cost	1	LOT		5,770	$23.80					137,310	2,500	46,020	64,630	$250,460

APPENDIX " A"

PROJECT: OSDF Control & Management FY10
ESTIMATE NOC20105-11(S)FY10
CLIENT: DOE
WBS NO.: 1.1.C.D

SITE SPECIFIC

EFFICIENCY / MULTIPLIER ANALYSIS

DATE: 17-May-01
ESTIMATOR: Name
LOCATION: Fernald
TASK NO.: CDG11

PERCENT OF INFLUENCE ON CHART MANHOURS	40%	50%	60%	70%	80%	90%	100%	105%	110%	% OF INFLUENCE	WT'D VALUE	PROD. RESULT
CRAFT SKILL (NOTE 1)	POOR			FAIR			STD	V.GOOD	XCELLENT	100.0%	12.0%	0.12
CRAFT AVAIL.(NOTE 1)		POOR		FAIR			STD			100.0%	8.0%	0.08
CLIMATE (NOTE 2)	SEVERE	ICE/SNOW			RAIN		+40 TO +85			90.0%	20.0%	0.18
PLANT ELEVATION		OVER 10,000FT			5,000' TO 10,000 FT		UNDER 5,000 FT			100.0%	5.0%	0.05
WORK SPACE				200 SF	250 SF	300 SF	350 SF			100.0%	10.0%	0.1
	<---- MULTIPLE SHIFTS-											
WORK WEEK							4-10s / 5-8s			100.0%	15.0%	0.15
50 HOUR WORK WEEK	////////// //// MULTIPLE-SHIFT	////////// //////////	////////// //////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS				0.0%	0.0%	0
60 HOUR WORK WEEK	////////// //////////	////////// //////////	OVER 7 WEEKS	3 TO 7 WEEKS	UP TO 3 WEEKS					0.0%	0.0%	0
SHIFTWORK							OR					
2ND SHIFT					2ND SHIFT		ONE SHIFT			100.0%	3.0%	0.03
3RD SHIFT			3RD SHIFT				ONLY			100.0%	5.0%	0.05
PROJECT SIZE					400M MH AND UP	300M TO 400M MH	200M TO 300M MH	200M MH OR LESS		100.0%	4.0%	0.04
PLANT TYPE				REVAMP ONLY	REVAMP & NEW	NEW IN EXIST PLT	GRASS ROOTS			90.0%	8.0%	0.072
AREA/UNION INFLUENCE	STRONG		MILD		SOME		NONE			40.0%	10.0%	0.04
											100.0%	91.2%

NOTES.....
1. TURNOVER HAS BEEN CONSIDERED
2. FOR EXTERIOR WORK ONLY

EFFICIENCY (AS A % OFF CHART MANHOURS) 91.2%

MULTIPLIER - (TO BE APPLIED TO CHART M.H.'S TO OBTAIN SITE M.H.'S) 1.10

EFFICIENCY FACTORS

PROJECT: OSDF Control & Management FY10
ESTIMATE NO. C20105-11(S)FY10
CLIENT: DOE
WBS NO.: 1.1.C.D

Fluor Fernald, Inc.

DATE: 17-May-01
ESTIMATOR: Name
LOCATION: Fernald
TASK NO.: CDG11

EXAMPLE:

STANDARD CHART MANHOURS =	NET	100
EFFICIENCY FACTORS:		
* SITE SPECIFIC (SEE APPENDIX A)	[redacted]	10.0
S/T = BASE UNIT MANHOURS		110
OVERTIME PRODUCTIVITY FACTOR	0.00%	0
(SEE DETAIL WORKSHEET BACK-UP)		110
* TASK SPECIFIC (confined space, high elevation, congestion, etc.)	0.0%	0
		110
* PPE SPECIFIC (Based on current data and estimating knowledge)		

	PPE LEVEL									
	D		Mod.'D'		Mod. "C"		C		C+	
PRODUCTIVITY HOURS		MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's	MULTIPLIER	MH's
(AS A %) / ADD MH's	4.00%	4	28.00%	31	66.00%	73	74.00%	81	96.00%	106
(AS A MULTIPLIER)/TOTAL HRS	1.04	114.4	1.28	140.8	1.66	182.6	1.74	191.4	1.96	215.6
TOTAL MULTIPLIER w/SITE PROD.	1.144		1.408		1.826		1.914		2.156	

NOTE : Use the Default Productivity Factor of 'mC' for working in a contaminated area if the Safety Level cannot be determined.

(SEE FD FERNALD ESTIMATING SERVICES REFERENCE MANUAL IM-6006 8.10)

Total hours worked in a specific PPE level divided by 10 hour working days = (PPE) ManDays to determine material cost of PPE's.
(SEE APPENDIX C - HEALTH PHYSICS)

11.0	Man Days	14.0	Man Days	18.0	Man Days	19.0	Man Days	22.0	Man Days

THESE EFFICIENCY FACTORS WERE APPLIED INDIVIDUALLY THROUGHOUT THE ESTIMATE AT A TASK SPECIFIC LEVEL, TO OBTAIN A MORE ACCURATE ACCOUNT OF OVERALL EFFICIENCY IMPACT DUE TO PPE REQUIREMENTS IN HANDLING CONTAMINATED AND HAZARDOUS WASTE.

EFFICIENCY FACTORS

PROJECT: OSDF Control & Management FY10
ESTIMATE NO. C20105-11(S)FY10
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: Name
LOCATION: Fernald
TASK NO.: CDG11

PPE MULTIPLIER DEVELOPEMENT

		D	mD	mC	C	C+
CREW SIZE & MAKE-UP	STANDARD	7	7	7	7	7
	WORKER-BUDDY	0	0	0	0	0
	SUPPORT TEAM	0	0	0	0	0
	TOTAL CREW	7	7	7	7	7
CREW SIZE RATIO		1.00	1.00	1.00	1.00	1.00
AVAILABLE WORK TIME FACTOR		0.96	0.78	0.7	0.7	0.68
PPE LABOR PRODUCTIVITY FACTOR		1	1	0.86	0.82	0.75
NET PRODUCTIVITY RATIO		0.96	0.78	0.602	0.574	0.51
NET PRODUCTIVITY MULTIPLIER		**1.04**	**1.28**	**1.66**	**1.74**	**1.96**

These factors were based on Tables 6.1 and 6.2, Moderate Work Efforts, 66F to 85F temperature of 'Hazardous Waste Cost Control' by R.A.Selg.
Modifications were made to reflect a 10 hour work day and no buddy system or support team for levels D, mC and C.
The worker-buddy and support team members, if required, may be covered under Construction Mgmt. (Rad Techs).

AVAILABLE WORK TIME FACTOR		D	mD	mC	C	C+
TOTAL WORK MINUTES per D 4 - 10's		600	600	600	600	600
ADDITN'L.SITE SAFETY MEETINGS NOT INCLD. IN BA	QUANTITY	1	1	1	1	1
	MINUTES	25	25	25	25	25
TOTAL		25	25	25	25	25
PPE DON & DOFFING	QUANTITY	0	0	3	3	3
(ADJUST LEVEL D per WORK PLAN)	MINUTES	0	0	15	15	20
TOTAL			0	45	45	60
WORK BREAKS	QUANTITY	N/A	2	2	2	2
(ADJUST LEVEL D per WORK PLAN)	MINUTES	N/A	15	15	15	15
TOTAL			30	30	30	30
MOBILIZATION - ROUND TRIPS	QUANTITY	N/A	4	4	4	4
(ADJUST LEVEL D per WORK PLAN)	MINUTES	N/A	15	15	15	15
TOTAL			60	60	60	60
COOLDOWNS PER DAY	QUANTITY	N/A	4	4	4	4
** (4 OUT OF 12 MONTHS) 33.33%	MINUTES	N/A	15	15	15	15
TOTAL			20	20	20	20
AIR TANK REPLACEMENT	QUANTITY	N/A	N/A	N/A	N/A	N/A
	MINUTES	N/A	N/A	N/A	N/A	N/A
TOTAL						
AVAILABLE WORK TIME		575	465	420	420	405
AVAILABLE WORK TIME FACTOR		**0.96**	**0.78**	**0.7**	**0.7**	**0.68**

NOTE: Adjust 'Work Minutes per Day' basis to: 5 - 8's, or leave as 4 - 10's. Any other circumstances, over-ride the minutes per day.

** Assumption based on work performed in May, June, July & August, pro-rating cost over one year. Adjust % to individual circumstances.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: OSDF Control & Management FY10
ESTIMATE NO. C20105-11(S)FY10
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: Name
LOCATION: Fernald
TASK NO.: CDG11

Fluor Fernald, Inc.

PPE"s - PERSONAL PROTECTIVE EQUIPMENT

DESCRIPTION	UNIT	UNIT COST	* NO. OF CHANGE OUTS PER WORKER PER DAY				
			Man Days (TOTAL HOURS worked in PPE's Div. by WORK HOURS / DAY)				
PPE LEVEL C / C+ / B : F/HF MASK w/RESP.&CART.			*	MAN DAYS	MAT'L.$'s	PPE LEVEL	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	
TYVEK COVER-ALL w/HOOD & BOOTIES - DISPOSABLE	EA	$4.46	3	0	$0	C / C+	(DOUBLE PPE)
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	C / C+	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	C / C+	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	C / C+	
APR CARTRIDGES - DISPOSABLE	PR	$6.98	3	0	$0	C / C+	
SUB-TOTAL		$17.42	3		$0		
				$/MD =	$0.00		
PPE LEVEL mC : FULL DRESS w/ FACE SHIELD				MAN DAYS	MAT'L.$'s	PPE LEVEL	
LT.WT. DISPOSABLE COVERALLS W/HOOD & BOOTIES	PR	$4.46	3	0	$0	mC	
GLOVE LINER - DISPOSABLE	PR	$0.24	3	0	$0	mC	
GLOVE, LASTEX - DISPOSABLE	PR	$0.26	3	0	$0	mC	
GLOVE, WORK - DISPOSABLE	PR	$1.02	3	0	$0	mC	
SUB-TOTAL		$5.98	3		$0		
				$/MD =	$0.00		
SUBCONTRACTOR REQUIRED PURCHASES			QTY. PER WKR.	NO. OF WORKERS	MAT'L.$'s	PPE LEVEL	
RUBBER BOOT COVERS-(1)PR.PER WORKER	PR	$12.70	6	0	$0	D/C/B	
APR w/HALF FACE MASK - (1) PER WORKER	EA	$22.30	6	0	$0	C	
APR w/FULL FACE MASK - (1) PER WORKER	EA	$174.00	6	0	$0	C	
SCBA	EA	$1,894.00	2	0	$0	B	
COOL VESTS	EA	$137.50	6	0	$0	C/B	
THERMO STRIPS	EA	$50.00	6	0	$0	C/B	
SUB-TOTAL					$0		

TOTAL PPE's = MAT'L.$'s $0

(FORWARD TO PAGE 2 OF 2)

OTHER PPE's SUCH AS HARD HAT, SAFETY GLASSES/GOGGLES, STEEL TOED SAFETY SHOES, HEARING PROTECTION, ARE CONSIDERED THE SUBCONTRACTORS RESPONSIBILITY AND ARE COVERED IN HIS OVERHEAD EXPENSE.
COSTS OF FD FERNALD SUPPLIED PPE's, SUCH AS COTTON COVERALLS, EXCHANGE OF RUBBER BOOT COVERS AND RESPIRATORS FOR CHANGEOUTS AND CLEANING OF SAME IS INCURRED BY FD FERNALD AND COSTS ARE NOT INCLUDED AS PART OF PROJECT COSTS AT THIS TIME.

APPENDIX "C"

HEALTH PHYSICS

PROJECT: OSDF Control & Management FY10
ESTIMATE NO. C20105-11(S)FY10
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 17-May-01
ESTIMATOR: Name
LOCATION: Fernald
TASK NO.: CDG11

--MEDICAL MONITORING --

MEDICAL - PHYSICAL and IN-VIVO MONITORING - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION PHYSICAL (3hrs), IN-VIVO (1hr)	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $
BASELINE PHYSICALS	1	4	0	0	$23.80	$0
ANNUAL PHYSICALS	0	4	0	0	$23.80	$0
EXIT (TERMINATION) PHYSICALS (IN-VIVO)	1	1	0	0	$23.80	$0
SUB-TOTAL						$0

RADIATION IN-VITRO SURVEILLANCE - LOST WORKER TIME for RAD II WORKERS ONLY

DESCRIPTION	QTY	HRS	WKR	TOTAL HOURS	AVG. LABOR RATE	TOTAL LABOR $
BI-MONTHLY BIOASSAY	6	1	0	0	$23.80	$0
SUB-TOTAL						$0

RANDOM DRUG TESTING

	TESTS	HRS	TOTAL HOURS	AVG. RATE	LABOR $'s
	1	2	2	$23.80	$0

NO. OF WKRS. TESTED	TESTING DAYS PER YR.	AVG. NO. OF TESTS PER DAY	CHANCE/ DAY FOR TEST	NO. OF WKRS. FOR THIS ESTIMATE	CHANCES /DAY FOR TEST FOR PROJECT	CONSTR WORKING DAYS
2340	226	10	0.0042735	1	0.0043	226

		LABOR $'s THRU SAFETY	LABOR $'s
WORK DELAYS CAUSED BY MONITORING	0.0%	$20,449	$0
			LABOR $'s
WORK DELAYS CAUSED BY RAD CHECKING	0.0%	$20,449	$0

	TOTAL LABOR	TOTAL MAT'L.	GRAND TOTAL
TOTAL HEALTH PHYSICS	$0	$0	$0

(FORWARD TO ESTIMATE SUMMARY SHEET)

ACTIVITY DURATIONS

Fluor Fernald, Inc.

PROJECT: OSDF Control & Management FY10
ESTIMATE NO. C20105-11(S)FY10
CLIENT: DOE
WBS NO.: 1.1.C.D

DATE: 12-Sep-01
ESTIMATOR: Name
LOCATION: Fernald
TASK NO.: CDG11

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION
CONSTRUCTION:	01-May-01	01-Oct-09	01-Apr-10	30-Sep-10	12.0	MONTHS
					0	MONTHS
TOTAL REDUCE BY 1/8 on Detail Summary Sheet					12.0	MONTHS

	DATE of EST. to MID-POINT ACTIVITY DURATION	
a.	107.1	MONTHS
b.	0	MONTHS

ACTIVITY	EST. DATE	START DATE	MID POINT	COMPL. DATE	ACTIVITY	DURATION
OPERATIONS					0	MONTHS

DATE of EST. to MID-POINT ACTIVITY DURATION	
0	MONTHS

ACTIVITY DURATION IS USED IN DETERMINING NUMBER of WORKERS for CERCLA/SAT TRAINING HOURS and HEALTH PHYSICS COSTS.

SECTION 5

5.0 RISK PLAN

Risk/Opportunity Identification and Analysis Form

Project: OSDF Controls & Management		PBS Number: 03			Total Baseline Dollars (Minimum Case):			$4,090,596		
Evaluator: Wolinsky		WBS Number: 1.1.C.E								
CAM: J.D. Chiou	Date: 05/01/01	Control Account Number: CDG1								
Project Task	Risk and/or Opportunity	Potential Impact	Internal Or External Driver	Impact Cost $ (Maximum Case)	Risk Impact Level	Risk Probability %	Risk Probability Level	Probable Cost $ (Likeliest Case)	Risk Critical Value	Risk Handling Strategy
Charge No. CDG11, OSDF Controls & Management										
Protection of stockpiled geosynthetic materials	Unexpected weather events such as tornadoes, heavy winds, lighting, etc. cause significant damage to stockpiled material	Additional cost related to replacing stockpiled materials	Internal	$500,000.00	2	10	1	$50,000.00	1	Accept
Winterization of facilities and temporary water system	Extremely cold winter results in excessive repairs to temporary water systems	Additional cost to repair/replace temporary pipes and valves	Internal	$50,000.00	1	20	2	$10,000.00	1	Accept
Winterization of active cells	Unexpected weather events such as very heavy short duration rainstorms cause excessive erosion of select material receiving caps	Additional cost related to repairing excessive erosion	Internal	$100,000.00	2	20	2	$20,000.00	2	Accept
Construction of Miscellaneous Facilities - General	Minor construction schedule extension due to various issues, e.g., inclement weather, equipment deliveries, rework	Additional cost resulting from a one-month schedule extension	Internal	$100,000.00	2	30	2	$30,000.00	2	Accept
			Total:	$650,000.00			Total:	$80,000.00		
Stormwater management and erosion control - general	Regulators impose new enhanced surface water management and erosion control requirements	Additional cost to maintain a conforming system	External	$200,000.00	2	40	3	$80,000.00	2	
Control and management of temporary covers on active cells	Regulators impose a change to the method of stabilization of active cells during shutdown periods requiring temporary covers rather than pine sap	Additional cost for a once a year application over an 8-year period	External	$200,000.00	2	20	2	$40,000.00	2	