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FINAL REPORT

**Groundwater Contamination Study
Forbes Field
Air National Guard Base
Shawnee County, Kansas**

AD-A160 599

Prepared For:
United States Air Force
Occupational and Environmental
Health Laboratory (OEHL)
Brooks Air Force Base, Texas

September 1985

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Volume II - Estimated Costs

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Volume II

ESTIMATED COSTS OF RECOMMENDED ACTIONS

The costs for implementing the recommendations outlined in Section 5 of this report have been estimated and are provided on the following tables herein attached:

- Table 1: Summary of Total Costs
- Table 2: Breakdown of Estimated Manpower by Labor Category
- Table 3: Summary Breakdown by Activity
- Table 4: Analytical Manpower Requirements
- Table 5: Summary of Estimated Other Direct Costs
- Table 6: Estimate of Subcontract Drilling Costs.

Manpower hours and costs were computed using Weston's contract rates for 1985. Drilling subcontract costs are based upon rates quoted by Terra Con Consultants of Lexana, Kansas, using equipment mobilized from that office. Other direct costs were estimated based on rates prevailing on May 15, 1985, and airline fares, in particular, may be subject to change in the near future.

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TABLE 1: SUMMARY OF TOTAL COSTS

	<u>MANPOWER</u>	<u>DRILLING</u>	<u>ODC'S</u>	<u>TOTAL</u>
Site Investigation	22,163	6,163	6,672	34,998
Report	7,325	-0-	950	8,275
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	29,488	6,163	7,622	43,273

TABLE 2: BREAKDOWN OF ESTIMATED MANPOWER BY LABOR CATEGORY

	SENIOR LEVEL		MID-LEVEL		JUNIOR LEVEL		TECHNICIAN		TOTAL	
	MH	\$	MH	\$	MH	\$	MH	\$	MH	\$
Site Investigation	152	9511	126	5489	161	4690	93	2465	532	22163
Report	<u>38</u>	<u>2378</u>	<u>88</u>	<u>3833</u>	<u>20</u>	<u>584</u>	<u>20</u>	<u>530</u>	<u>166</u>	<u>7325</u>
	190	11,889	214	9322	181	5282	113	2995	698	29,488

TABLE 3

MANPOWER BREAKDOWN BY ACTIVITY; RECOMMENDATIONS

<u>ACTIVITY</u>	<u>MANPOWER LEVEL</u>	<u>FORBES FIELD</u>
<u>DIRECT LABOR</u>		
Set up, calibration and cleanup	Senior(S)	10
	Mid-Level (M-L)	30
	Junior (J)	10
	Technician (T)	10
Field Testing	S	20
	M-L	60
	J	100
	T	40
Report Preparation	S	38
	M-L	88
	J	20
	T	20
Direct Labor Summary	S	30
	M-L	90
	J	110
	T	<u>50</u>
Subtotal		280
Analytical Labor	S	15
	M-L	36
	J	51
	T	<u>43</u>
		145
<u>Project Management:</u>		
Planning and Administration		65
Quality Assurance		13
Report Review		13
Subcontract Management		<u>16</u>
Subtotal		107
<u>Grand Total</u>	532	

TABLE 4: ANALYTICAL MANPOWER REQUIREMENTS

ANALYTE	MEDIUM	SAMPLES	SENIOR LEVEL		MID-LEVEL		JUNIOR LEVEL		TECHNICIAN		TOTAL	
			MH	\$	MH	\$	MH	\$	MH	\$	MH	\$
VOA	GW, SW	28	13	813	31	1350	44	1284	37	981		4428
Oil & Grease	GW, SW	28	2	125	5	218	7	204	6	159	20	706
TOTALS			15	938	36	1568	51	1488	43	1140	145	5134

TABLE 5: SUMMARY OF ESTIMATED OTHER DIRECT COSTS, CONFIRMATION STAGE

<u>ITEM</u>	<u>UNIT</u>	<u>NO. OF UNITS</u>	<u>UNIT COST</u>	<u>COST</u>
Air Transportation	Round Trip	6	480	2430
Rental Car	Day	11	45	495
Local Transportation	Round Trip	6	60	360
Per Dies	Man Day	22	76	1672
Equipment Rental				
HMU	Day	7	20	140
Expendable Supplies	Miscellaneous			75
Shipping	Crate	6	100	600
Telephone	Call	40	5	200
Graphics	Each	6	75	450
Printing	Page	5000	.10	500
Surveying	Round	1	250	250
				<u>\$7,622</u>

Based upon 50 page draft, 1 draft, 25 copies, and 75 page final, 50 copies.

TABLE 6: ESTIMATE OF SUBCONTRACT DRILLING COSTS

<u>ITEM</u>	<u>UNIT COST</u>	<u>COST</u>
Mobilization	350	350
<u>5 Shallow Monitoring Wells</u>		
Drilling and continuous spilt-spoon sampling (75)	19.50/ft.	1463
Well installation (5)	50+(\$6/ft x 15)	700
Protective casings (5)	200	1000
Set up time (5)	70/hr	350
<u>1 Deep Monitoring Well</u>		
Soil boring (10')	6/ft.	60
Rock boring (30')	25/ft	750
Well installation (1)	80+(\$12/ft x 10')	200
Protective casing (1)	250	250
Set up time (2)	70/hr	140
<u>Decontamination Equipment(5)</u>	100/day	500
<u>Per Diem (10)</u>	40/man-day	400
<u>TOTAL</u>		<u>\$6163</u>