APPENDIX G ADDITIONAL GROUNDWATER ASSESSMENT DOCUMENTATION

COST ESTIMATE FOR ADDITIONAL INVESTIGATION (30-FOOT ZONE MONITORING 40 YRS) Henning Management LLC v Chevron USA Inc, et al; 31st JDC, Div "C"; Docket No. 73318 Hayes Field, Calcasieu and Jefferson Davis Parish, Louisiana Prepared for MUDD, BRUCHHAUS, & KEATING LLC

Time by Task	Cost per	Unit	Number of Units	Markup (20%)	Total (\$)
Mob/Demob Equipment (One Time Event)					
Equipment (Mob/Demob) (Dril Rig)	\$3,500.00	/unit	1 unit		\$3,500
Equipment (Mob/Demob) (Geoprobe)	\$1,500.00	/unit	1 unit		\$1,500
				SUBTOTAL	\$5,000
Installation of Additional Assessment Monitoring Wells in Bed A (one v	vell NW Corner of Area 2	~ 40' hls)			
Direct Push Well Installation	\$71.00		40 feet		\$2,840
Direct Push Conductivity Probe	\$55.00	/foot	40 feet		\$2,200
Grouting Conductivity Probe Hole	\$16.00		40 feet		\$640
Conductivity Logging System	\$500.00		1 days		\$500
Completion	\$120.00		1 well		\$120
Mileage (support trucks)	\$125.00 \$260.00	•	1 days		\$125 \$260
Hotel (2 rooms) Per diem (4 people)	\$120.00		1 nights 1 days		\$200 \$120
	Ψ120.00	ruay	1 days	SUBTOTAL	\$6,805
Installation of Additional Assessment Monitoring Wells in Bed A and B Direct Push Well Installation	ed B for Background (5 y \$71.00		' bls and 5 wells to ~60' bls) 500 feet		\$35,500
Direct Push Conductivity Probe	\$55.00		300 feet		\$16,500
Grouting Conductivity Probe Hole	\$16.00		300 feet		\$4,800
Conductivity Logging System	\$500.00		7 days		\$3,500
Completion	\$120.00	/per well	10 well		\$1,200
Mileage (support trucks)	\$125.00	/day	7 days		\$875
Hotel (2 rooms)	\$260.00		7 nights		\$1,820
Per diem (4 people)	\$120.00	/day	7 days	CURTOTAL	\$840 \$65.035
				SUBTOTAL	\$65,035
Installation of Additional Assessment Monitoring Wells in Bed B (one v	vell NW Corner of Area 2	. ~ 55' bls an	d 6 wells in Area 4 ~ 55' bls)		
Direct Push Well Installation	\$71.00		385 feet		\$27,335
Direct Push Conductivity Probe	\$55.00		385 feet		\$21,175
Grouting Conductivity Probe Hole	\$16.00		385 feet		\$6,160
Conductivity Logging System	\$500.00	•	5 days		\$2,500
Completion Mileage (support trucks)	\$120.00 \$125.00		7 wells		\$840 \$625
Hotel (2 rooms)	\$260.00		5 days 5 nights		\$1,300
Per diem (4 people)	\$120.00		5 days		\$600
(1 1 7	•			SUBTOTAL	\$60,535
Installation of Additional Assessment Manitorina Walls in in Chicat by	blowert well (CND#4 on	25240\/ 450\	hle)		
Installation of Additional Assessment Monitoring Wells in in Chicot by Well Installation	\$6,500.00		2 days		\$13,000
2" PVC Well Material	\$16.00		150 feet		\$2,400
Completion	\$650.00		1 well		\$650
Mileage (support trucks)	\$125.00		2 days		\$250
Hotel	\$130.00		2 nights		\$260
Per diem	\$30.00	/day	2 days		<u>\$60</u>
				SUBTOTAL	\$16,620
Groundwater Sampling (sampling Per Event)					
Geologist	\$115.00	/hour			
Technician		/hour	80 hours		\$9,200
	\$65.00	/Houl	80 hours 80 hours		\$9,200 \$5,200
Analytical (RCRA metals, TDS, BTEX, TPH-G, TPH-D/O)	\$328.00	/sample	80 hours 19 sample	\$1,246.40	\$5,200 \$7,478
Analytical (RCRA metals, TDS, BTEX, TPH-G, TPH-D/O) Analytical (Radium 226/228)	\$328.00 \$70.00	/sample /sample	80 hours 19 sample 19 sample	\$266.00	\$5,200 \$7,478 \$1,596
Analytical (RCRA metals, TDS, BTEX, TPH-G, TPH-D/O) Analytical (Radium 226/228) Analytical (Alkalinity, Mercury, Sulfate, Bromide, Chloride)	\$328.00 \$70.00 \$180.00	/sample /sample /sample	80 hours 19 sample 19 sample 19 sample		\$5,200 \$7,478 \$1,596 \$4,104
Analytical (RCRA metals, TDS, BTEX, TPH-G, TPH-D/O) Analytical (Radium 226/228) Analytical (Alkalinity, Mercury, Sulfate, Bromide, Chloride) Cond/Temp/Ph Meter	\$328.00 \$70.00 \$180.00 \$40.00	/sample /sample /sample /day	80 hours 19 sample 19 sample 19 sample 10 day	\$266.00	\$5,200 \$7,478 \$1,596 \$4,104 \$400
Analytical (RCRA metals, TDS, BTEX, TPH-G, TPH-D/O) Analytical (Radium 226/228) Analytical (Alkalinity, Mercury, Sulfate, Bromide, Chloride) Cond/Temp/Ph Meter DO Meter	\$328.00 \$70.00 \$180.00 \$40.00 \$40.00	/sample /sample /sample /day /day	80 hours 19 sample 19 sample 19 sample 10 day 10 day	\$266.00	\$5,200 \$7,478 \$1,596 \$4,104 \$400 \$400
Analytical (RCRA metals, TDS, BTEX, TPH-G, TPH-D/O) Analytical (Radium 226/228) Analytical (Alkalinity, Mercury, Sulfate, Bromide, Chloride) Cond/Temp/Ph Meter DO Meter Turbidity Meter	\$328.00 \$70.00 \$180.00 \$40.00 \$40.00 \$35.00	/sample /sample /sample /day /day /day	80 hours 19 sample 19 sample 19 sample 10 day 10 day 10 day	\$266.00	\$5,200 \$7,478 \$1,596 \$4,104 \$400 \$400 \$350
Analytical (RCRA metals, TDS, BTEX, TPH-G, TPH-D/O) Analytical (Radium 226/228) Analytical (Alkalinity, Mercury, Sulfate, Bromide, Chloride) Cond/Temp/Ph Meter DO Meter Turbidity Meter Water Level Meter	\$328.00 \$70.00 \$180.00 \$40.00 \$40.00 \$35.00 \$15.00	/sample /sample /sample /day /day /day /day	80 hours 19 sample 19 sample 19 sample 10 day 10 day 10 day 10 day	\$266.00	\$5,200 \$7,478 \$1,596 \$4,104 \$400 \$400 \$350 \$150
Analytical (RCRA metals, TDS, BTEX, TPH-G, TPH-D/O) Analytical (Radium 226/228) Analytical (Alkalinity, Mercury, Sulfate, Bromide, Chloride) Cond/Temp/Ph Meter DO Meter Turbidity Meter	\$328.00 \$70.00 \$180.00 \$40.00 \$40.00 \$35.00	/sample /sample /sample /day /day /day /day /day	80 hours 19 sample 19 sample 19 sample 10 day 10 day 10 day 10 day 2 day	\$266.00	\$5,200 \$7,478 \$1,596 \$4,104 \$400 \$400 \$350 \$150 \$250
Analytical (RCRA metals, TDS, BTEX, TPH-G, TPH-D/O) Analytical (Radium 226/228) Analytical (Alkalinity, Mercury, Sulfate, Bromide, Chloride) Cond/Temp/Ph Meter DO Meter Turbidity Meter Water Level Meter Grunfos Pump and Controller	\$328.00 \$70.00 \$180.00 \$40.00 \$40.00 \$35.00 \$15.00 \$125.00	/sample /sample /sample /day /day /day /day /day /day	80 hours 19 sample 19 sample 19 sample 10 day 10 day 10 day 10 day	\$266.00	\$5,200 \$7,478 \$1,596 \$4,104 \$400 \$400 \$350 \$150
Analytical (RCRA metals, TDS, BTEX, TPH-G, TPH-D/O) Analytical (Radium 226/228) Analytical (Alkalinity, Mercury, Sulfate, Bromide, Chloride) Cond/Temp/Ph Meter DO Meter Turbidity Meter Water Level Meter Grunfos Pump and Controller Peristaltic Pump	\$328.00 \$70.00 \$180.00 \$40.00 \$40.00 \$35.00 \$15.00 \$125.00	/sample /sample /sample /day /day /day /day /day /day /day /foot	80 hours 19 sample 19 sample 19 sample 10 day 10 day 10 day 10 day 2 day 10 day	\$266.00	\$5,200 \$7,478 \$1,596 \$4,104 \$400 \$400 \$350 \$150 \$250 \$1,250
Analytical (RCRA metals, TDS, BTEX, TPH-G, TPH-D/O) Analytical (Radium 226/228) Analytical (Alkalinity, Mercury, Sulfate, Bromide, Chloride) Cond/Temp/Ph Meter DO Meter Turbidity Meter Water Level Meter Grunfos Pump and Controller Peristaltic Pump Master Flex Vinyl Tubing Hotel	\$328.00 \$70.00 \$180.00 \$40.00 \$40.00 \$35.00 \$15.00 \$125.00 \$4.00 \$0.50 \$130.00	/sample /sample /sample /day /day /day /day /day /day /foot /foot /night	80 hours 19 sample 19 sample 19 sample 10 day 10 day 10 day 2 day 10 day 8 feet 590 feet 6 nights	\$266.00	\$5,200 \$7,478 \$1,596 \$4,104 \$400 \$350 \$150 \$250 \$1,250 \$32 \$295
Analytical (RCRA metals, TDS, BTEX, TPH-G, TPH-D/O) Analytical (Radium 226/228) Analytical (Alkalinity, Mercury, Sulfate, Bromide, Chloride) Cond/Temp/Ph Meter DO Meter Turbidity Meter Water Level Meter Grunfos Pump and Controller Peristaltic Pump Master Flex Vinyl Tubing Hotel Per diem	\$328.00 \$70.00 \$180.00 \$40.00 \$35.00 \$15.00 \$125.00 \$4.00 \$0.50 \$130.00	/sample /sample /sample /day /day /day /day /day /day /foot /foot /night /day	80 hours 19 sample 19 sample 19 sample 10 day 10 day 10 day 10 day 2 day 10 day 8 feet 590 feet 6 nights 6 days	\$266.00	\$5,200 \$7,478 \$1,596 \$4,104 \$400 \$400 \$350 \$150 \$250 \$1,250 \$32 \$295 \$780 \$180
Analytical (RCRA metals, TDS, BTEX, TPH-G, TPH-D/O) Analytical (Radium 226/228) Analytical (Alkalinity, Mercury, Sulfate, Bromide, Chloride) Cond/Temp/Ph Meter DO Meter Turbidity Meter Water Level Meter Grunfos Pump and Controller Peristaltic Pump Master Flex Vinyl Tubing Hotel Per diem Mileage	\$328.00 \$70.00 \$180.00 \$40.00 \$40.00 \$35.00 \$15.00 \$125.00 \$4.00 \$0.50 \$130.00 \$30.00 \$0.82	/sample /sample /sample /day /day /day /day /day /day /foot /foot /foot /night /day /mile	80 hours 19 sample 19 sample 19 sample 10 day 10 day 10 day 2 day 10 day 8 feet 590 feet 6 nights 6 days 600 miles	\$266.00	\$5,200 \$7,478 \$1,596 \$4,104 \$400 \$350 \$150 \$250 \$1,250 \$32 \$295 \$780 \$180 \$492
Analytical (RCRA metals, TDS, BTEX, TPH-G, TPH-D/O) Analytical (Radium 226/228) Analytical (Alkalinity, Mercury, Sulfate, Bromide, Chloride) Cond/Temp/Ph Meter DO Meter Turbidity Meter Water Level Meter Grunfos Pump and Controller Peristaltic Pump Master Flex Vinyl Tubing Hotel Per diem Mileage 55 gallon drum	\$328.00 \$70.00 \$180.00 \$40.00 \$40.00 \$35.00 \$15.00 \$125.00 \$4.00 \$0.50 \$130.00 \$0.82 \$95.00	/sample /sample /sample /day /day /day /day /day /foot /foot /foot /night /day /mile /drum	80 hours 19 sample 19 sample 19 sample 10 day 10 day 10 day 2 day 10 day 8 feet 590 feet 6 nights 6 days 600 miles 2 drum	\$266.00	\$5,200 \$7,478 \$1,596 \$4,104 \$400 \$350 \$150 \$250 \$1,250 \$32 \$295 \$780 \$180 \$492 \$190
Analytical (RCRA metals, TDS, BTEX, TPH-G, TPH-D/O) Analytical (Radium 226/228) Analytical (Alkalinity, Mercury, Sulfate, Bromide, Chloride) Cond/Temp/Ph Meter DO Meter Turbidity Meter Water Level Meter Grunfos Pump and Controller Peristaltic Pump Master Flex Vinyl Tubing Hotel Per diem Mileage	\$328.00 \$70.00 \$180.00 \$40.00 \$40.00 \$35.00 \$15.00 \$125.00 \$4.00 \$0.50 \$130.00 \$30.00 \$0.82	/sample /sample /sample /day /day /day /day /day /foot /foot /foot /night /day /mile /drum	80 hours 19 sample 19 sample 19 sample 10 day 10 day 10 day 2 day 10 day 8 feet 590 feet 6 nights 6 days 600 miles	\$266.00	\$5,200 \$7,478 \$1,596 \$4,104 \$400 \$350 \$150 \$250 \$1,250 \$32 \$295 \$780 \$180 \$492
Analytical (RCRA metals, TDS, BTEX, TPH-G, TPH-D/O) Analytical (Radium 226/228) Analytical (Alkalinity, Mercury, Sulfate, Bromide, Chloride) Cond/Temp/Ph Meter DO Meter Turbidity Meter Water Level Meter Grunfos Pump and Controller Peristaltic Pump Master Flex Vinyl Tubing Hotel Per diem Mileage 55 gallon drum 100 gallon plastic containers (4 per day)	\$328.00 \$70.00 \$180.00 \$40.00 \$40.00 \$35.00 \$15.00 \$125.00 \$4.00 \$0.50 \$130.00 \$0.82 \$95.00	/sample /sample /sample /day /day /day /day /day /foot /foot /foot /night /day /mile /drum	80 hours 19 sample 19 sample 19 sample 10 day 10 day 10 day 2 day 10 day 8 feet 590 feet 6 nights 6 days 600 miles 2 drum	\$266.00 \$684.00	\$5,200 \$7,478 \$1,596 \$4,104 \$400 \$350 \$150 \$250 \$1,250 \$32 \$295 \$780 \$180 \$492 \$190 \$240
Analytical (RCRA metals, TDS, BTEX, TPH-G, TPH-D/O) Analytical (Radium 226/228) Analytical (Alkalinity, Mercury, Sulfate, Bromide, Chloride) Cond/Temp/Ph Meter DO Meter Turbidity Meter Water Level Meter Grunfos Pump and Controller Peristaltic Pump Master Flex Vinyl Tubing Hotel Per diem Mileage 55 gallon drum 100 gallon plastic containers (4 per day)	\$328.00 \$70.00 \$180.00 \$40.00 \$40.00 \$35.00 \$15.00 \$125.00 \$4.00 \$0.50 \$130.00 \$0.82 \$95.00	/sample /sample /sample /day /day /day /day /day /foot /foot /foot /night /day /mile /drum /day	80 hours 19 sample 19 sample 19 sample 10 day 10 day 10 day 2 day 10 day 8 feet 590 feet 6 nights 6 days 600 miles 2 drum 6 days	\$266.00 \$684.00	\$5,200 \$7,478 \$1,596 \$4,104 \$400 \$350 \$150 \$250 \$1,250 \$32 \$295 \$780 \$180 \$492 \$190 \$240 \$32,587
Analytical (RCRA metals, TDS, BTEX, TPH-G, TPH-D/O) Analytical (Radium 226/228) Analytical (Alkalinity, Mercury, Sulfate, Bromide, Chloride) Cond/Temp/Ph Meter DO Meter Turbidity Meter Water Level Meter Grunfos Pump and Controller Peristaltic Pump Master Flex Vinyl Tubing Hotel Per diem Mileage 55 gallon drum 100 gallon plastic containers (4 per day) GroundwaterDisposal (Purge water 55 gallons) Geologist	\$328.00 \$70.00 \$180.00 \$40.00 \$40.00 \$35.00 \$15.00 \$125.00 \$4.00 \$0.50 \$130.00 \$30.00 \$0.82 \$95.00	/sample /sample /sample /day /day /day /day /day /foot /foot /foot /night /day /mile /day /hour	80 hours 19 sample 19 sample 19 sample 10 day 10 day 10 day 10 day 2 day 10 day 8 feet 590 feet 6 nights 6 days 600 miles 2 drum 6 days	\$266.00 \$684.00	\$5,200 \$7,478 \$1,596 \$4,104 \$400 \$400 \$350 \$150 \$250 \$1,250 \$32 \$295 \$780 \$180 \$492 \$190 \$240 \$32,587
Analytical (RCRA metals, TDS, BTEX, TPH-G, TPH-D/O) Analytical (Radium 226/228) Analytical (Alkalinity, Mercury, Sulfate, Bromide, Chloride) Cond/Temp/Ph Meter DO Meter Turbidity Meter Water Level Meter Grunfos Pump and Controller Peristaltic Pump Master Flex Vinyl Tubing Hotel Per diem Mileage 55 gallon drum 100 gallon plastic containers (4 per day)	\$328.00 \$70.00 \$180.00 \$40.00 \$40.00 \$35.00 \$15.00 \$125.00 \$4.00 \$0.50 \$130.00 \$0.82 \$95.00	/sample /sample /sample /sample /sample /day /day /day /day /day /day /foot /foot /foot /foot /day /mile /day /day /day /mile /day /mile /day	80 hours 19 sample 19 sample 19 sample 10 day 10 day 10 day 2 day 10 day 8 feet 590 feet 6 nights 6 days 600 miles 2 drum 6 days	\$266.00 \$684.00	\$5,200 \$7,478 \$1,596 \$4,104 \$400 \$350 \$150 \$250 \$1,250 \$32 \$295 \$780 \$180 \$492 \$190 \$240 \$32,587

TOTAL: \$122,493