



professional abandonment of all
end of life oil & gas facilities

Proposal For

Husky Oil Operations Limited Suspension and Abandonment Assessment

**Armada Gas Plant
01-18-017-18W4**

September 2011

For Further Information Contact:

**JSK Consulting Ltd.
Bay E3, 5560-45 Street
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ERCB License Number	F2226			
Facility Type (Guide 56, Table 5.1)	Gas Plant			
LSD Location	01-18-017-18W4			
License Holder	Husky Oil Operations Limited			
Facility Name	Armada			
Demolition Cost Description				Cost\$
Facility Suspension (purge vessels, flow lines)				\$ 49,210
Sulphur Handling Facilities (disconnect and removal)				\$ -
Facility Preparation (electrical/instrumental disconnect & Removal				\$ 9,230
Surface Piping, Equipment & Vessel Demolition				\$ 70,780
Subsurface Facilities (pipe, cables, ust's & ast's) Demolition				\$ 105,120
Piping and Tank Insulation Removal				\$ 23,720
Building Demolition				\$ 36,690
Structural Demolition				\$ 64,850
Concrete Demolition & Pile Removals				\$ 71,550
Other Cost (safety equipment, misc. equipment & consumables)				\$ 18,857
Demolition Subtotal				\$ 450,007
<u>Transportation and Disposal</u>				
Class I Landfill (catalyst, desiccant etc.)				
Disposal Fee				\$ 235
Transportation of construction waste				
Class II Landfill (waste bins)				
Disposal Fee				\$ 5,250
Transportation and Loading Cost				
Class III Landfill (concrete, untreated wood)				
Disposal Fee				\$ 9,000
Transportation and Loading Cost				\$ 3,520
NORM Disposal				
Disposal Fee				\$ -
Transportation and Loading Cost				
Asbestos Disposal				
Disposal Fee				\$ -
Transportation and Loading Cost				
AENV Licensed Incineration				
Disposal Fee				
Transportation and Loading Cost				
Liquids Disposal (from Facility Suspension)				
Disposal Fee				\$ 675
Transportation and Loading Cost				
Other Disposal				
Disposal Fee				
Transportation and Loading Cost				\$ 21,600
Scrap Metal Value				
Sorting and Sizing Cost				
Transportation and Loading Cost				
Ferrous Material Value				
Nonferrous Material Value				
Scrap Metal Net				
Transportation and Disposal Subtotal				\$ 40,280
Project Management				\$ 3,000
Project Engineering and Support Services				\$ 3,000
Subsistence/Camp cost				\$ 70,350
Site Admin. Cost (supervision, safety, utilities, trailers, consumables, etc.)				\$ 130,100
				\$ -
Project Management Subtotal				\$ 206,450
Care and Custody (3 years)				\$ 36,000
Decommissioning Subtotal				\$ 732,737
Contingency			10%	\$ 73,274
GST			5%	\$ 36,637
Total Suspension and Abandonment Cost				\$ 842,648

JSK CONSULTING LTD.**PROJECT ESTIMATE REPORT**

Site Inspector / Reviewer 1 / Reviewer 2:	Jim Blair / Mike Thygesen / Jim Kitchen
Licensee	Husky Oil Operations Limited
Location (LSD):	01-18-017-18W4
ERCB LICENSE NUMBER:	F2226
PROJECT:	Armada Suspension and Abandonment Assessment
DATE Site Visit Completed:	No site visit / Sept 2011

Summary of the Initial Site Conditions at the Time of the Pre-Decommissioning Report and a Brief Description of the Initial Scope of Work

Scope of Work: Prepare a report showing costs and procedures to decommission and completely remove all equipment, above and below ground, from this site.

There was no site visit conducted on this facility and this assessment is based on information received from various sources.

We are assuming that the large office building and the building beside it (likely a garage) are on concrete floors. It is likely that all other buildings and equipment are supported by steel piles.

This plant is located east of Lomond, AB and is a sweet gas facility built in approximately 1981.

JSK CONSULTING LTD.**PROJECT ESTIMATE REPORT**

Site Inspector / Reviewer 1 / Reviewer 2: Jim Blair / Mike Thygesen / Jim Kitchen

Licensee Husky Oil Operations Limited

Location (LSD): 01-18-017-18W4

ERCB LICENSE NUMBER: F2226

PROJECT: Armada Suspension and Abandonment Assessment

DATE: September 28, 2011

Recommendations and Proposed Scope of Work

Clarifications:

As per ERCB guidelines, there are no provisions for asset resale with this estimate. Decommissioning costs are based on what is currently present at the facility including all equipment and structural steel. This estimate is based on all equipment, piping, surplus materials and buildings being sheared, cut up or recycled for their recycle value. Any pipe, cable or structural steel sent to recycle would have a credit per load applied, however these salvage values are not included in this assessment. The cost to transport materials to recycle have been included in the assessment. Demolition and disposal of concrete has also been included in this assessment although the disposal costs would likely be net-zero after the concrete is crushed and re-used or sold, any credit that would be recovered from the concrete is not included in this assessment.

"As ownership of equipment on a facility site can be held by a party other than the licensee, there is no provision for claiming its salvage value on Type A site -specific liability assessments. However, a scrap metal value can be claimed provided that it is based on third-party quotes and reflects only its undiscounted current value. The costs for abandonment of leased buildings and equipment must be included in the liability estimate submitted for the purpose of the ERCB's liability management programs. There is a legislative obligation to abandon all buildings, equipment, and appurtenances, etc. subject to ERCB approval or a license. That obligation makes no reference to ownership and the ERCB holds the licensee or approval holder and working interest participants fully responsible for the liabilities on sites approved by the ERCB. Leased buildings (including those which existed prior to the approval) or leased equipment that must be returned are governed by contractual arrangements between lessor and lessee and the ERCB is not privy to these contracts. Therefore, the abandonment cost estimate submitted to the ERCB must include all equipment or buildings associated with that facility license".

We propose :

- a daily work schedule of approximately 10 hours on site per day.
- our manpower allocation indicates a project schedule of 21 days
- skilled workers will be utilized;
- all quoted rates for the decommissioning are in today's dollars with no assumption for inflation over time;

We have included:

- in the "Safety Equipment" for the random use of Safety Watches as required;
- engineering services to cover errors and omissions for insurance purposes;
- the abandonment of all buried on lease pipelines (off lease pipelines are not included).

JSK CONSULTING LTD.**PROJECT ESTIMATE REPORT**

Site Inspector / Reviewer 1 / Reviewer 2: Jim Blair / Mike Thygesen / Jim Kitchen

Licensee Husky Oil Operations Limited

Location (LSD): 01-18-017-18W4

ERCB LICENSE NUMBER: F2226

PROJECT: Armada Suspension and Abandonment Assessment

DATE: September 28, 2011

Recommendations and Proposed Scope of Work

Clarifications continued...**Care and Custody costs include (Over three year period):**

- securing the site, all buildings, and equipment to prevent unauthorized access or use
- providing weekly on-site security inspections and monthly reporting
- maintaining all required monitoring and reporting programs
- maintaining utilities, such as electrical power, water and natural gas as required
- maintaining vegetation control
- winterizing the facility and other related infrastructure

Not included:

- no costs have been included for monitoring and/or NORMs disposal
- no costs have been included for asbestos surveys or removal of asbestos if any exists
- removal of existing gravel (to be included in reclamation component)

Camp Costs/Subsistence

It is important to note that subsistence costs, whether an actual camp is required or not, is a large component of all project work and must be included in the LLR submission to the ERCB. Our estimates are based on an average work day of 10 hours. Even if services are commuting from nearby communities/towns where subsistence would not be paid, additional time would be required to allow for travel to and from the service provider's home base, adding to the overall estimated hours but reducing the subsistence costs. These additional costs (travel or camp) have been captured in the "camp cost/subsistence" portion of this estimate. Due to the proximity to Brooks and Vulcan and other oilfield services and availability of local resources, we believe an average of \$150 per man day would be sufficient to cover either travel or subsistence costs.

	JSK CONSULTING LTD.			
PROJECT ESTIMATE REPORT	PROJECT ESTIMATE REPORT			
Site Inspector / Reviewer 1 / Reviewer 2:	Jim Blair / Mike Thygesen / Jim Kitchen			
Licensee	Husky Oil Operations Limited			
Location (LSD):	01-18-017-18W4			
ERCB LICENSE NUMBER:	F2226			
PROJECT:	Armada Suspension and Abandonment Assessment			
DATE:	September 28, 2011			
	Description	Rates	Total Man Days	Estimated Cost
	Site Administration Costs			
	Consultant/Supervisor	\$1,500.00	21	\$ 31,500
	Administrative Tech	\$400.00	17	\$ 6,800
	Safety Supervisor	\$1,000.00	21	\$ 21,000
	Site Foreman (1)	\$750.00	21	\$ 15,750
				\$ -
	Service Truck	\$200.00	21	\$ 4,200
	Skidsteer/Forklift	\$250.00	21	\$ 5,250
	R/T Cranes (50 ton & 65 ton)	\$7,850.00	3	\$ 23,550
	Telehandler	\$500.00	21	\$ 10,500
	Man Lift	\$350.00	21	\$ 7,350
	Crew Wash Unit	\$200.00	21	\$ 4,200
	250 ton Crane	\$10,000.00		\$ -
	400 ton Crane			\$ -
				\$ -
				\$ -
	Site Administration Costs Total			\$ 130,100
	Project Management	\$1,500.00	2	\$ 3,000
	Engineering Services	\$1,500.00	2	\$ 3,000
	Care and Custody (3 years)	\$36,000.00	1	\$ 36,000
				\$ -
	Facility Suspension (purge vessels, equipment and on lease piping)			\$ 49,210
	Remove Sulphur Handling Facilities			\$ -
	Facilities Preparation (electrical/instrumentation)			\$ 9,230
	Surface Piping, Equipment and Vessel Demolition			\$ 70,780
	Subsurface Facilities (pipe, cables, uests and including asts) Demolition			\$ 105,120
	Piping and Tank Insulation Removal			\$ 23,720
	Building Demolition			\$ 36,690
	Structure Steel Removal			\$ 64,850
	Concrete and Pile Removal			\$ 71,550
	Waste Disposal- Solids (Class I) ex.catalyst, desiccants			\$ 235
	Waste Disposal - Solids (Class II) ex. Waste bins, garbage			\$ 5,250
	Trucking Concrete (Class III)			\$ 3,520
	Waste Disposal- Concrete (Class III)			\$ 9,000
	Trucking- Steel/Metals			\$ 21,600
	Waste Disposal-Liquids			\$ 675
	Waste Disposal - Asbestos (Estimate Provided by 3rd Party)			
	Waste Disposal - NORM (Estimated Provided by 3rd Party)			
	Total Waste Disposal Costs			\$ 40,280
	Administration Camp Cost	\$150.00	83	\$ 12,450
	Crew Camp Cost	\$150.00	386	\$ 57,900
	Total Camp Cost			\$ 70,350
	Total Safety Equipment, Materials & Consumables	4%		\$ 18,857
	Project Subtotal			\$ 732,737
	Contingency @	10%		\$ 73,274
	GST @	5%		\$ 36,637
	TOTAL			\$ 842,648

PROJECT ESTIMATE REPORT		JSK CONSULTING LTD.				
Site Inspector / Reviewer 1 / Reviewer 2:		Jim Blair / Mike Thygesen / Jim Kitchen				
Licensee		Husky Oil Operations Limited				
Location (LSD):		01-18-017-18W4				
ERCB LICENSE NUMBER:		F2226				
PROJECT:		Armada Suspension and Abandonment Assessment				
DATE:		September 28, 2011				
Demolition Cost Description:						

Item	Description	# of Days on site	Qty. of Units	Total Man/Days	Rate/Day	Estimated Cost	SCOPE OF WORK
	Estimated Duration PHASE I	3					PHASE I Purge all Equipment including Piping Systems,Tanks and Exchangers Scope of Work -ensure all sources of gas and pressure into the site are eliminated/blinded -use vac truck to depressurize and remove all free liquids from piping & equip -use vac and steam trucks to empty and clean the ASTs, the NGL bullet and the small chemical tanks and containments -use vac and steam trucks to empty and clean the USTs (at least 3) -transport all waste liquids and sludge to disposal facility by vac trucks -purge out all equipment, tanks and piping with nitrogen -use safety watch throughout this phase -use breathing apparatus as necessary
	Pipefitter Foreman	3	1	3	\$ 600.00	\$1,800.00	
	Pipefitter 1	3	2	6	\$ 420.00	\$2,520.00	
	Pipefitter 2	3	6	18	\$ 380.00	\$6,840.00	
	Safety Watch	3	1	3	\$ 1,100.00	\$3,300.00	
	Crew Van	3	1	3	\$ 150.00	\$450.00	
	Service Truck	3	1	3	\$ 200.00	\$600.00	
	Tool Truck	3	2	6	\$ 350.00	\$2,100.00	
	Steam Truck	3	2	6	\$ 1,600.00	\$9,600.00	
	Vacuum Truck	3	2	6	\$ 1,800.00	\$10,800.00	
	Nitrogen Units	1	1	1	\$ 10,000.00	\$10,000.00	
				0		\$0.00	
				0		\$0.00	
	Tool Crib	3	2	6	\$ 200.00	\$1,200.00	
				0		\$0.00	
				0		\$0.00	
				0		\$0.00	
				0		\$0.00	
				0		\$0.00	
	SUBTOTAL (Phase I)					\$49,210.00	
	Estimated Duration PHASE II						PHASE II N/A Remove Sulphur Handling Facilities Scope of Work
	Pipefitter Foreman			0	\$ 600.00	\$0.00	
	Pipefitter 1			0	\$ 420.00	\$0.00	
	Pipefitter 2			0	\$ 380.00	\$0.00	
	Safety Watch			0	\$ 1,100.00	\$0.00	
	Crew Van			0	\$ 150.00	\$0.00	
	Service Truck			0	\$ 200.00	\$0.00	
	Tool Truck			0	\$ 350.00	\$0.00	
	Steam Truck			0	\$ 1,600.00	\$0.00	
	Vacuum Truck			0	\$ 1,800.00	\$0.00	
	Nitrogen Units			0	\$ 10,000.00	\$0.00	
	R/T Hoe			0	\$ 1,300.00	\$0.00	
	Cutting Station			0	\$ 150.00	\$0.00	
	Hydro Vac			0	\$ 2,800.00	\$0.00	
	Shear			0	\$ 4,500.00	\$0.00	
	Concrete Breaker			0	\$ 3,500.00	\$0.00	
	Track Hoe			0	\$ 2,200.00	\$0.00	
				0		\$0.00	
				0		\$0.00	
				0		\$0.00	
	SUBTOTAL (Phase II)					\$0.00	
	TOTAL (Phase I & II)					\$49,210.00	
	Safety Equipment, Misc. Materials &						
	Consumables @ x% of Total	4%	49210			\$1,968.40	
	Camp Cost @\$X/Manday	\$ 150.00	43			\$6,450.00	

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PROJECT ESTIMATE REPORT

Site Inspector / Reviewer 1 / Reviewer 2:	Jim Blair / Mike Thygesen / Jim Kitchen	Page 2
Licensee	Husky Oil Operations Limited	
Location (LSD):	01-18-017-18W4	
ERCB LICENSE NUMBER:	F2226	
PROJECT:	Armada Suspension and Abandonment Assessment	
DATE:	September 28, 2011	

Item	Description	# of Days on site	Qty. of Units	Total Man/Days	Rate/Day	Estimated Cost	SCOPE OF WORK
	Estimated Duration PHASE III	1					PHASE III Removal of Electrical Systems Scope of Work -work with utility company to ensure all power to site is shut off/locked out -disconnect power feeds into and out of transformer and MCC -use approved company to safely remove and transport transformer to recycle facility -disconnect electricity feeds from all buildings and skids, light poles, etc. -disconnect electricity from the electric motors and equipment (all conduits and electrical are UG so shearing will be handled in Phase VI)
	Electrician Foreman	1	1	1	\$ 600.00	\$600.00	
	Electrician 1	1	2	2	\$ 480.00	\$960.00	
	Electrician 2	1	4	4	\$ 420.00	\$1,680.00	
	Crew Van	1	1	1	\$ 150.00	\$150.00	
	Service Truck	1	1	1	\$ 200.00	\$200.00	
	Tool Truck	1	2	2	\$ 350.00	\$700.00	
	Tool Crib	1	2	2	\$ 200.00	\$400.00	
	Shear			0	\$ 4,500.00	\$0.00	
				0		\$0.00	
				0		\$0.00	
				0		\$0.00	
				0		\$0.00	
				0		\$0.00	
				0		\$0.00	
	SUBTOTAL (Phase III)					\$4,690.00	
	Estimated Duration PHASE IV	1					PHASE IV Removal of Instrumentation Systems Scope of Work -depressurize air compressors in the office/shop bldg -ensure all instrumentation tubing and devices are depressurized -disconnect all tubing from skids and devices, retaining liquids if any (all piping and tubing are UG so shearing will be handled in Phase VI)
	Instrumentation Foreman	1	1	1	\$ 600.00	\$600.00	
	Instrumentation Labor 1	1	2	2	\$ 480.00	\$960.00	
	Instrumentation Labor 2	1	4	4	\$ 420.00	\$1,680.00	
	Crew Van			0	\$ 150.00	\$0.00	
	Service Truck	1	1	1	\$ 200.00	\$200.00	
	Tool Truck	1	2	2	\$ 350.00	\$700.00	
	Tool Crib	1	2	2	\$ 200.00	\$400.00	
	Shear			0	\$ 4,500.00	\$0.00	
				0		\$0.00	
				0		\$0.00	
				0		\$0.00	
				0		\$0.00	
				0		\$0.00	
				0		\$0.00	
	SUBTOTAL (Phase IV)					\$4,540.00	
	TOTAL (Phase III & IV)					\$9,230.00	
	Safety Equipment, Misc. Materials &						
	Consumables @ x% of Total	4%	\$ 9,230.00			\$369.20	
	Camp Cost @\$X/Manday	\$ 150.00	14			\$2,100.00	

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PROJECT ESTIMATE REPORT								
Site Inspector / Reviewer 1 / Reviewer 2:		Jim Blair / Mike Thygesen / Jim Kitchen				Page 3		
Licensee		Husky Oil Operations Limited						
Location (LSD):		01-18-017-18W4						
ERCB LICENSE NUMBER:		F2226						
PROJECT:		Armada Suspension and Abandonment Assessment						
DATE:		September 28, 2011						
Item	Description	# of Days on site	Qty. of Units	Total Man/ Days	Rate/Day	Estimated Cost	SCOPE OF WORK	
	Estimated Duration PHASE V	6					PHASE V A/G Piping, Equip. & Vessel Demolition Scope of Work -unbolt/unthread/cut all flanged and threaded piping from skids and equipment -utilize cranes to lower the vent stack, process vessels, & compressor exhausts -use cranes to position heavy vessels and equip for cutting -hot cut/shear the aerial coolers and reboiler -hot cut the large bullet into transport sizes -hot cut all vessels and exchangers into practical sizes -shear the vent stack and all lighter materials -shear the ASTs including small chemical tanks -hot cut/shear all equipment down to load size parcels	
	Pipefitter Foreman	6	1	6	\$ 600.00	\$3,600.00		
	Pipefitter 1	6	2	12	\$ 420.00	\$5,040.00		
	Pipefitter 2	6	8	48	\$ 380.00	\$18,240.00		
	Crew Van	6	1	6	\$ 150.00	\$900.00		
	Service Truck	6	1	6	\$ 200.00	\$1,200.00		
	Tool Truck	6	2	12	\$ 350.00	\$4,200.00		
	Trucking (on site for storage)	2	2	4	\$ 2,200.00	\$8,800.00		
	Cutting Station	6	2	12	\$ 150.00	\$1,800.00		
				0	\$ 160.00	\$0.00		
	Shearing (other)	6	1	6	\$ 4,500.00	\$27,000.00		
				0		\$0.00		
				0		\$0.00		
				0		\$0.00		
				0		\$0.00		
SUBTOTAL (Phase V)						\$70,780.00		
	Estimated Duration PHASE VI	6						PHASE VI B/G Facilities (pipe, cables, uests) Demolition Scope of Work -do electronic sweep of entire area; mark all UG items found -prepare for ground disturbance -hydrovac to expose lines -excavate and remove all UG piping and cable/conduits -use vac truck to retain trapped liquids found; haul all waste liquids to disposal -excavate and remove ground rods and cables -excavate and remove the 3 USTs -backfill all excavations -further clean the USTs and piping to be acceptable at recycle facility -hot cut/shear all piping and cables/conduits removed from UG -hot cut/shear the USTs for recycle
	Pipefitter Foreman	6	1	6	\$ 600.00	\$3,600.00		
	Pipefitter 1	6	2	12	\$ 420.00	\$5,040.00		
	Pipefitter 2	6	6	36	\$ 380.00	\$13,680.00		
	Crew Van	6	1	6	\$ 150.00	\$900.00		
	Service Truck	6	1	6	\$ 200.00	\$1,200.00		
	Tool Truck	6	2	12	\$ 350.00	\$4,200.00		
	Survey/PL Locates	1	1	1	\$ 1,500.00	\$1,500.00		
	Hydro Vac	1	1	1	\$ 2,800.00	\$2,800.00		
				0		\$0.00		
				0		\$0.00		
	Steam Truck	5	1	5	\$ 1,600.00	\$8,000.00		
	Vacuum Truck	5	1	5	\$ 1,800.00	\$9,000.00		
	Shear	6	1	6	\$ 4,500.00	\$27,000.00		
	Cutting Station	6	2	12	\$ 150.00	\$1,800.00		
	Track Hoe	6	2	12	\$ 2,200.00	\$26,400.00		
				0		\$0.00		
				0		\$0.00		
				0		\$0.00		
				0		\$0.00		
						\$105,120.00		
TOTAL (Phase V & VI)						\$175,900.00		
Safety Equipment, Misc. Materials &								
Consumables @ x% of Total	4%	\$ 175,900.00				\$7,036.00		
Camp Cost @\$X/Manday	\$ 150.00	156				\$23,400.00		

PHASE V
A/G Piping, Equip. & Vessel Demolition

Scope of Work

- unbolt/unthread/cut all flanged and threaded piping from skids and equipment
- utilize cranes to lower the vent stack, process vessels, & compressor exhausts
- use cranes to position heavy vessels and equip for cutting
- hot cut/shear the aerial coolers and reboiler
- hot cut the large bullet into transport sizes
- hot cut all vessels and exchangers into practical sizes
- shear the vent stack and all lighter materials
- shear the ASTs including small chemical tanks
- hot cut/shear all equipment down to load size parcels

PHASE VI
B/G Facilities (pipe, cables, uests) Demolition

Scope of Work

- do electronic sweep of entire area; mark all UG items found
- prepare for ground disturbance
- hydrovac to expose lines
- excavate and remove all UG piping and cable/conduits
- use vac truck to retain trapped liquids found; haul all waste liquids to disposal
- excavate and remove ground rods and cables
- excavate and remove the 3 USTs
- backfill all excavations
- further clean the USTs and piping to be acceptable at recycle facility
- hot cut/shear all piping and cables/conduits removed from UG
- hot cut/shear the USTs for recycle

PROJECT ESTIMATE REPORT

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Husky Oil Operations Limited

01-18-017-18W4

F2226

Armada Suspension and Abandonment Assessment

September 28, 2011

Item	Description	# of Days on site	Qty. of Units	Total Man/ Days	Rate/Day	Estimated Cost	
	Estimated Duration PHASE VII	4					SCOPE OF WORK
	Insulator Foreman	4	1	4	\$ 600.00	\$2,400.00	PHASE VII
	Insulator 1	4	2	8	\$ 420.00	\$3,360.00	Insulation Removal & Plastics/Synthetics Removal
	Insulator 2	4	8	32	\$ 380.00	\$12,160.00	
	Crew Van	4	1	4	\$ 150.00	\$600.00	Scope of Work
	Service Truck	4	1	4	\$ 200.00	\$800.00	-strip cladding and insulation from vessels and equip
	Tool Truck	4	2	8	\$ 350.00	\$2,800.00	-strip cladding and insulation from headers and risers
	Tool Crib	4	2	8	\$ 200.00	\$1,600.00	-strip cladding and insulation from interior of all metal bldgs
				0		\$0.00	-tear out any poly liners of tank secondary containment
				0		\$0.00	-utilize skid steer, telehandler as needed
				0		\$0.00	-retain all metal cladding in recycle bins
				0		\$0.00	-retain all insulation, plastics and debris in waste bins
				0		\$0.00	
				0		\$0.00	
				0		\$0.00	
				0		\$0.00	
				0		\$0.00	
	SUBTOTAL (Phase VII)					\$23,720.00	
	Estimated Duration PHASE VIII	3					PHASE VIII
	Building Foreman	3	1	3	\$ 600.00	\$1,800.00	Building Demolition
	Builder 1	3	2	6	\$ 480.00	\$2,880.00	
	Builder 2	3	6	18	\$ 420.00	\$7,560.00	Scope of Work
	Crew Van	3	1	3	\$ 150.00	\$450.00	-utilize shear and track hoe/thumb to dismantle and shear up the 4 compressor
	Service Truck	3	1	3	\$ 200.00	\$600.00	bldgs and other metal bldgs
	Tool Truck	3	2	6	\$ 350.00	\$2,100.00	-load all tin and metal into recycle bins
	Tool Crib	3	2	6	\$ 200.00	\$1,200.00	-builders/laborers will assist with picking up small pieces
	Shear	3	1	3	\$ 4,500.00	\$13,500.00	-utilize skid steers/telehandlers as needed
	Track Hoe	3	1	3	\$ 2,200.00	\$6,600.00	
				0		\$0.00	
				0		\$0.00	
				0		\$0.00	
				0		\$0.00	
				0		\$0.00	
				0		\$0.00	
	SUBTOTAL (Phase VIII)					\$36,690.00	
	TOTAL (Phase VII & VIII)					\$60,410.00	
	Safety Equipment, Misc. Materials & Consumables @ x% of Total	4%	\$ 60,410.00			\$2,416.40	
	Camp Cost @\$X/Manday	\$ 150.00	77			\$11,550.00	

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PROJECT ESTIMATE REPORT

Site Inspector / Reviewer 1 / Reviewer 2:	Jim Blair / Mike Thygesen / Jim Kitchen	Page 5
Licensee	Husky Oil Operations Limited	
Location (LSD):	01-18-017-18W4	
ERCB LICENSE NUMBER:	F2226	
PROJECT:	Armada Suspension and Abandonment Assessment	
DATE:	September 28, 2011	

Item	Description	# of Days on site	Qty. of Units	Total Man/ Days	Rate/Day	Estimated Cost	SCOPE OF WORK
	Estimated Duration PHASE IX	5					PHASE IX
	Structural Foreman	5	1	5	\$ 600.00	\$3,000.00	Remove Structural Steel; Remove Fencing and Guard Rails
	Builder 1	5	2	10	\$ 480.00	\$4,800.00	
	Builder 2	5	8	40	\$ 420.00	\$16,800.00	Scope of Work
	Crew Van	5	1	5	\$ 150.00	\$750.00	-tear out and shear up the plant perimeter fencing
	Service Truck	5	1	5	\$ 200.00	\$1,000.00	-hot cut the skids and equipment from their steel piles
	Tool Truck	5	2	10	\$ 350.00	\$3,500.00	-cut up the structural steel from steel piles in header areas
	Cutting Station	5	2	10	\$ 150.00	\$1,500.00	-hot cut/shear up the steel skids and structural steel
	Shear	5	1	5	\$ 4,500.00	\$22,500.00	
	Track Hoe/Thumb	5	1	5	\$ 2,200.00	\$11,000.00	
				0		\$0.00	
				0		\$0.00	
				0		\$0.00	
				0		\$0.00	
	SUBTOTAL (Phase IX)					\$64,850.00	
	Estimated Duration PHASE X	5					PHASE X
	Concrete Breaker	2	1	2	\$ 3,500.00	\$7,000.00	Concrete and Pile Removal
	Pile Puller(all inclusive)		190		\$ 200.00	\$38,000.00	Scope of Work
	Track Hoe with thumb	5	1	5	\$ 2,200.00	\$11,000.00	-break up the concrete floors and any other concrete
	Steam Truck	4	1	4	\$ 1,600.00	\$6,400.00	-dig out and stockpile the concrete
	Remove Fencing (lump sum)			0		\$0.00	-laborers will be required to help cut and remove rebar, Styrofoam insulation, poly
	Builder 2	5	4	20	\$ 420.00	\$8,400.00	-utilize pile puller and track hoe/thumb to pull/remove the steel piles
	Crew Van	5	1	5	\$ 150.00	\$750.00	-clean steel piles sufficiently to be accepted at recycle
				0		\$0.00	
	SUBTOTAL (Phase X)					\$71,550.00	
	PHASE XI						PHASE XI
	Trucking-Concrete (number of 25 ton loads)		8		\$ 440.00	\$3,520.00	Load and Transport Waste to Disposal
	Trucking-Waste Bins incl tipping fee (# of loads)		7		\$ 750.00	\$5,250.00	Scope of Work
	Waste disposal-concrete (number of tons)		200		\$ 45.00	\$9,000.00	-load and haul the broken up concrete to landfill
	Waste Disposal-Liquids (number of m3)		5		\$ 135.00	\$675.00	-transport waste bins to landfill
	Waste Disposal-solids (number of m3)		1		\$ 235.00	\$235.00	-load and haul all steel and metals to recycle facility
	Trucking-Steel/Metals (number of loads)		24		\$ 900.00	\$21,600.00	
						\$0.00	
						\$0.00	
						\$0.00	
						\$0.00	
	SUBTOTAL (Phase XI)					\$40,280.00	
	TOTAL (Phase IX, X, XI)					\$176,680.00	
	Safety Equipment, Misc. Materials &						
	Consumables @ x% of Total	4%	\$ 176,680.00			\$7,067.20	
	Camp Cost @\$X/Manday	\$ 150.00	96			\$14,400.00	

Transport of waste liquids and solids to disposal facility by vac truck was captured in Phase I