

June 16, 2021

Colorado Oil & Gas Conservation Commission
John E. Axelson, P.G.
East Environmental Supervisor
1120 Lincoln Street, Suite 801
Denver, Colorado, 80203

Subject: This Addendum Is Related to CWMF #149017. Revised Estimated Cost to Provide Remediation and Closure of the Wellington Produced Water Treatment Facility.

Dear Mr. Axelson;

Wellington Operating Company (WOC) is providing the following responses to your requests for additional information related to the Estimated Closure Costs document provided by WOC in the testimony section of the discharge permit renewal application. This information is provided as an addendum to the original estimate and WOC has provided a revised Estimated Cost to Provide Remediation and Closure of the Wellington Produced Water Treatment Facility. Your questions and comments from your email inquire are copied below in italic font and the WOC response follows each.

"I reviewed the April 28, 2021, cost estimate provided for the Wellington Centralized Waste Management Facility (ID #149017) closure. I wanted to know if the building existed prior to the treatment facility or if it was built specifically for the facility, and will the building be removed when the treatment plant is decommissioned?"

WOC Response: The facility building was constructed in 2005 & 2006 to house the water treatment system. There have not been any other operations within the facility.

The oil field operations have stored a trailer mounted pressure washer in the building in the winter to keep that equipment from freezing.

WOC owns the property that the building is sitting on and the building is in good condition there is no reason to remove it. The building office is being utilized by both the oil field operations as well as the water treatment facility. The building could have many uses no matter what the property is used for such as; machine shop, storage shed, equipment shed, etc. There are no plans to remove the building. We see no additional cost for this at this time.

"If the building will remain and will be used for something else, it would be helpful to make that clear in the estimate. If it's going to be removed, then the estimate would need to be revised to include building demo costs and surface reclamation of the disturbed area."

WOC Response: As noted in the previous response, at this time WOC would leave the building in place as an office and work shop or materials storage facility for the oil field. This has been noted in the revised estimate. We see no additional cost for this at this time.

“Also, for the pit closures, the cost to perform and report adequate characterization to properly close the pits in accordance with the current rules in addition to performing surface reclamation would, in my experience, be much higher than items #2 and 9 combined.”

WOC Response: We were basing the soil analysis on knowledge of the process and limiting the analysis to the current discharge permit until we see what other analysis or limits are required in the new permit. We were also looking at limiting the sample collection to one sample for each RIB since the RIBs receive basically the same water during their operation. Analysis was going to be limited based on parameters reasonably expected to be present based on discharge monitoring of the treated water.

If WOC must analyze soil samples for all of the parameters in Rule 900 Table 915-1, even though many of these parameters are not reasonably expected to be present based on the wastewater characterization analysis, as well as increase the number of samples, then the analysis cost will be much higher. Based on our knowledge of the operation and discharged water quality we feel that one sample in each RIB will determine that no contamination is present in the soil at the bottom of the RIBs and as such then there should be no further contamination down gradient of the RIBs. We have however, doubled the estimated laboratory fees not knowing what will be required at the time of closure. This change is reflected in the cost estimate line item.

Most of the excavated materials were used as the berms and additional materials are currently stockpiled at the site should they be needed for additional berms, leveling the berms, etc. Surface reclamation should be minimal as the RIBs are on the edge of a cultivated field and the farm would return that area back into cultivated use or for storage of silage as most of the immediate area is used for currently.

Recent earth work performed by a local contractor, was billed at \$2,500.00 per day including the equipment, and we have increased the estimated time from two to four days to backfill and grade the RIBs, for a total of \$10,000.00. This change is reflected in the cost estimate line item.

“I did not see any discussion of abandonment of the pipeline that feeds the plant or the pits. Technically, these are flowlines and would need to be properly abandoned in accordance with the 900 & 1100 series rules.”

WOC Response: The supply flowline from the aeration tank to the treatment facility was included in the “Water Supply” Section as the last three-line items, wording has been changed to identify the pipeline as a flowline. This flowline is on the oilfield property and would be abandoned in place.

The discharge flowline was included in the “GAC System” Section and we have added line items for additional work on this flowline. The flowline abandonment was discussed with Gracey Oilfield Services and was included in their cost estimate.

“For monitoring well closure, in my experience it would cost more to properly abandon the six wells in accordance with the State Engineer's office requirements and provide the associated well abandonment reports.”

WOC Response: WOC spoke with Paul Stone P.G., senior geologist for Stonegate Land & Water, LLC. in Fort Collins. Paul informed WOC of the Division of Oil and Public Safety – Petroleum Storage Tank Fund spreadsheet.

In reviewing this document, we determined that the State allows a billing rate of at least \$9.50 per foot for 2" well abandonment. WOC has six 2-inch monitoring wells with a total of 434 feet in the six wells. Using this rate, the estimated cost for the 2" well abandonments is \$4,123.00.

The document also provides a “monitoring well permit” rate of at least \$100.00 per well. We are using this rate as the documentation rate for notifying the State Engineer as to the well closures. The documentation for six wells amounts to a total of \$600.00.

The estimated costs total \$4723.00, WOC has increased the “Monitoring Well Closure Costs” from \$1,000.00 to \$5,000.00 in the estimate.

“Last, I noted that the walnut shells would be transferred to a tank for injection. Does this mean injection into one of the UIC disposal wells that Wellington Operates? Even if the well would take that kind of material, I'm not sure it would be allowed under the conditions of the UIC permit. Could you explain or provide an alternate cost for disposal.”

WOC Response: No, the waste walnut shells would not be injected. We did not break out that line item well, so the task has been broken it into two-line items. The shells would not and cannot be injected since the pumps would not handle them. The waste shells would be disposed as a solid waste either as a E&P waste when dried or through a permitted facility that can dispose of oil field solid & liquid waste products.

The liquid/water used to transfer the shells from the filter would be screened and the water would be transferred to our injection waste tank. This water is filtered through 50-micron bags filters when it is transferred to the triplex injection pumps for disposal.

The shells and other debris would be collected, dried and disposed as a solid E&P waste either at an approved landfill or an oilfield waste disposal facility such as Pawnee Waste, Inc. We see no additional cost for this at this time.

“Please update the estimate to address the issues I noted in my review. If you disagree that some of the costs are accurate, please provide a quote or an estimate to verify a service provider would perform the closure for those costs you've already provided. Also, please note in the subject that this estimate is related to CWMF #149017.”

WOC Response: WOC has responded to the questions above. The estimate has been revised and follows in this document.

The increase in estimated closure costs is \$12,000.00 and is provided in the following section. This amounts to a 24% increase since the original amount was requested.

Please let us know if you have any additional questions or need any additional information by email at rgrevans477@gmail.com.

Sincerely;

WELLINGTON OPERATING COMPANY

A handwritten signature in black ink that reads "Randy Evans". The signature is written in a cursive style with a large, prominent "R" and "E".

Randy Evans
Operator in Responsible Charge (ORC)

Revised June 16, 2021

Colorado Oil & Gas Conservation Commission
1120 Lincoln Street, Suite 801
Denver, Colorado, 80203

Subject: This Estimate is Related to CWMF #149017. Amended Estimated Cost to Provide Remediation and Closure of the Wellington Produced Water Treatment Facility.

To Whom It May Concern;

Wellington Operating Company is providing this summary of the tasks and estimated costs to provide the remediation and closure of the Wellington Produced Water Treatment Facility and the support systems involved with its operation and monitoring:

A brief list of the various remediation tasks includes the following;

1. Process Wastewater Tanks
2. Flowline Closure & Abandonment
3. Building Process Area Remediation
4. Equipment & Process Pipe Removal
5. RIB Backfill & Closure
6. Storage Tank Removal
7. Environmental Sampling
8. Monitoring Well Closure

The facility building was constructed in 2005 & 2006 to house the wastewater treatment system. There have not been any other operations within the facility.

The oil field operations have stored a trailer mounted pressure washer in the building in the winter to prevent that equipment from freezing.

WOC owns the property that the building is sitting on and the building is in good condition, there is no reason to remove it. The building office is being utilized by both the oil field operations as well as the water treatment facility. The building could have many uses no matter what the property is used for such as; machine shop, storage shed, equipment shed, etc. There are no plans at this time to remove the building.

Estimated Cost Summary:

- | | |
|---|---------------------------|
| 1. Gracey Oilfield Services (GOS); | \$25,000.00 |
| Provides oil field Roust-A Bout services and is familiar with the facility. After reviewing the detailed task list, GOS estimates that they would be able to perform the tasks they are listed as contractor for. | |
| 2. Environmental Analysis Costs; (original Estimated Cost - \$3,000.00) | <u>\$6,000.00</u> |
| Estimated analysis costs for samples from the facility and rapid infiltration basins (RIBs). | |
| 3. Material Solid Waste Disposal Costs are estimated at; | \$2,500.00 |
| 4. Transportation Costs are estimated at; | \$2,500.00 |
| 5. Equipment Rental Costs are estimated at; | \$5,000.00 |
| 6. Purchased Material Costs are estimated at; | \$1,000.00 |
| 7. Environmental Consulting Costs are estimated at; | \$5,000.00 |
| 8. Monitoring Well Closure Costs are estimated at; (original Estimated Cost - \$1,000.00) | <u>\$5,000.00</u> |
| 9. RIB Backfill Costs are estimated at; (original Estimated Cost - \$5,000.00) | <u>\$10,000.00</u> |
| Total Costs are estimated at; (original Estimated Cost - \$50,000.00) | <u>\$62,000.00</u> |

A detailed list of tasks that would need to be performed is provided in the following Table. Reference photos are provided after the Table;

	Task Description	Waste Type	Contractor	Comment
Water Supply	Atmospheric Pressure Tank - Left in Place	None	None	Co-use by Oil field - Left in place.
	Aeration Tank - Left in Place	None	None	Co-use by Oil field - Left in place.
	Aeration Tank - Blower Removal	Recycle Drain Oil	Gracey Oilfield Services	Sale of used Roots Blower
	Aeration Tank - Blower Shed - Left in Place	None	None	Could be used as parts storage by field operations
	Aeration Tank - Blower Pipeline Removal	Recycled Steel	Gracey Oilfield Services	
	Aeration Tank - Aeration Manifold	None	Gracey Oilfield Services	Left in place, inside tank
	Aeration Tank - Disconnect & Vacuum out flowline to 3W	Oilfield Wastewater	Gracey Oilfield Services	Flowline closed in place on oil field property.
	Aeration Tank - Seal flowline to 3W	None	Gracey Oilfield Services	Flowline closed in place on oil field property.
	Disconnect Inlet Flowline & Seal	None	Gracey Oilfield Services	Flowline closed in place on oil field property.

Walnut Shell Filter (WSF)	Flush & Drain Used Walnut Shells From WSF Revised June 16, 2021	<i>E&P Solid Waste when dry - Walnut Shells</i>	<i>Gracey Oilfield Services</i>	<i>2,000 pounds of walnut shells plus water weight</i>
		<i>Inject Flush Water</i>	<i>Gracey Oilfield Services</i>	<i>Water processed through a screen & drained to floor drain & transferred to DAF tank for injection</i>
	Disconnect & Drain 4" Supply Pipe to WSF	Solid Waste PVC Pipe	Gracey Oilfield Services	App. 8' of 6" Sch 80 PVC Pipe & 30' of 4" Sch 80 PVC Pipe, used valves may be salvaged
	Disconnect & Drain 3" Backwash Pipe from WSF to DAF Tank	Solid Waste PVC Pipe	Gracey Oilfield Services	App. 15' of 3" Sch 80 PVC Pipe
	Disconnect & Drain 3" Discharge Pipe from WSF to 2nd Aeration Tank	Solid Waste PVC Pipe	Gracey Oilfield Services	App. 50' of 3" Sch 80 PVC Pipe, Valves and flow sensor may be salvaged
	Disconnect & discard flexible airline	Solid Waste PVC Pipe	Gracey Oilfield Services	
	Lock out and disconnect electrical supply to WSF	Recycle Steel Conduit and Copper Wire	Gracey Oilfield Services	Lockout/Tagout equipment on site.
	Move WSF out of the facility for shipping	None	Gracey Oilfield Services	
	Sale of Used WSF	None	Gracey Oilfield Services	To auction house or disposal as scrap steel
Secondary Aeration System	Drain (2) 1200 Gallon Aeration Tanks & (1) 2,500 Gallon Supply Tank	Inject Wastewater	Gracey Oilfield Services	
	Remove Secondary Aeration System PVC Piping	Solid Waste PVC Pipe	Gracey Oilfield Services	Various sizes but low volume
	Cut up (2) 1200 Gallon Aeration Tanks & (1) 2,500 Gallon Supply Tank for Disposal	Solid Waste	Gracey Oilfield Services	Potential to resale used tanks this size is low unless they could be reused by the oil field.
	Remove Water Recirculating Pump	Resale/Scrap Metal	Gracey Oilfield Services	Potential resale of used pump or scrap at local metal recycling
	Remove Ceramic Diffusor	Resale/Scrap Metal	Gracey Oilfield Services	Potential resale of used equipment
	Remove Mechanical Frames	Recycle Scrap Steel	Gracey Oilfield Services	Unistrut frames with little or no value
	Disconnect and dispose flexible air supply hose	Solid Waste	Gracey Oilfield Services	

GAC System	Remove Water Transfer Pipe from Pump to GAC Header	Solid Waste PVC Pipe	Gracey Oilfield Services	App. 30' of 3" Sch 80 PVC Pipe
	Remove Water Transfer Pipe from Tank to Pump	Solid Waste PVC Pipe Steel pipe for Recycle	Gracey Oilfield Services	App. 30' of 3" Sch 80 PVC Pipe, 30' of 4" Sch 80 PVC Pipe, & Approximately 6' of 2" Steel Pipe, used valves may be salvaged or disposed as solid waste.
	Remove Water Transfer Pump	Resale/Scrap Metal	Gracey Oilfield Services	Potential resale of used pump or scrap at local metal recycling
	Disconnect online GAC units and Drain to Floor Drain	Inject Wastewater	Gracey Oilfield Services	
	PREP GAC columns for return to Evoqua for Credit or third-party sale.	None	Gracey Oilfield Services	
	Dispose of Spent Carbon	Solid Waste	Gracey Oilfield Services	Profiled at Pawnee Disposal facility
	Disconnect Pipe to Plant Water Tank & Discharge Line	Solid Waste PVC Pipe	Gracey Oilfield Services	App. 50' of 4" Sch 80 PVC Pipe
	Use compressed air to blow out discharge flowline from the facility to the RIBs. Gravity drains to RIBs.	None/wastewater for injection disposal	Gracey Oilfield Services	Flowline closed in place
	Seal 8" Discharge Flowline next to the Facility	None	Gracey Oilfield Services	Flowline closed in place
	Excavate & seal 8" Discharge Flowline prior to RIBs. Backfill the excavation	None	Gracey Oilfield Services	Flowline closed in place
	Excavate and dispose valves and pipe runs into the RIBs	Solid Waste PVC Pipe	Gracey Oilfield Services	Regrading would be part of RIB closure
	Disconnect Turner TD-4100 Sensor	None	Gracey Oilfield Services	Potential Sale Item Original Value \$25,000.00 or solid waste
	Plant Water	Drain 5,000 Gallon Poly Tank - Left with Facility	Inject Wastewater	Gracey Oilfield Services
Water Pump & Pressure Tank - Left with Facility		None	Gracey Oilfield Services	Useful to the facility for trucked water

Injection Transfer	Drain and Pressure Wash DAF Tank	Inject Wastewater	Gracey Oilfield Services	
	Remove DAF Tank for Recycle	Recycle 300 Series Stainless Steel	Gracey Oilfield Services	
	Remove DAF Support Skids for Recycle	Recycle Carbon Steel	Gracey Oilfield Services	
	Remove for Sale (3) Bag Filter Housings	None/Solid Waste	Gracey Oilfield Services	Potential Sale Items
Chemical Room	Remove and dispose any unused chemicals	To be Determined at Closure	Gracey Oilfield Services	Minimum chemicals maintained on site
	Power wash chemical room and collect waste water	Wastewater for Local Disposal	Gracey Oilfield Services	Test wastewater for pH for disposal by Injection.
	Remove all used chemical lines and containment	Solid Waste once rinsed	Gracey Oilfield Services	Approximately 150' of 1-1/2" Sch 40 PVC Pipe, 150' of 3/8" and 1/2" Poly Tubing
	Disposed Used Chemical Metering Pumps	Solid Waste once rinsed	Gracey Oilfield Services	Used for 10% Sodium Hypochlorite
Elec & Mech	Disconnect and Remove Motor Starters	None	Gracey Oilfield Services	Potential Sale Items
	Disconnect and Remove Air Compressor & Dryer	None	Gracey Oilfield Services	Potential Sale Item
	General Cleaning	None	Gracey Oilfield Services	
Restroom	General Cleaning	None	Gracey Oilfield Services	
Office	General Cleaning	None	Gracey Oilfield Services	
	Remove Office and Laboratory Equipment	None	Gracey Oilfield Services	Potential Sale Items
Plant Area	General Cleaning	None	Gracey Oilfield Services	
	Pressure Wash Floor	None/Wastewater	Gracey Oilfield Services	
	Pipe & Conduit Hangers - Left In Place	None	Gracey Oilfield Services	
	Review and Collect Wipe Samples After Cleaning	None	Environmental Firm	

Rapid Infiltration Basins (RIBs) &	Drain RIBs & Tank	Water Allowed to Infiltrate at RIBs	Gracey Oilfield Services	
	Sample Bottom of RIBs once they have Dried Enough to Collect Sample	None	Environmental Firm	
	Sample Analysis	None	Environmental Laboratory	
	Backfill and compact RIBs	None	Gracey Oilfield Services	
	Prep Tank for Sale or Disposal by Carbon Steel Recycling	None	Gracey Oilfield Services	
Monitoring Wells (6)	Sand Pack Wells as Required by State Engineer Requirements	None	Environmental Firm	
	Bentonite Pack Wells as Required by State Engineer Requirements	None	Environmental Firm	
	Remove Surface Structures and Backfill	Solid Waste	Environmental Firm	
	Submit Closure Notices to State Engineer	None	Environmental Firm	
Equipment Rental	Fork Lift	None	Gracey Oilfield Services	
	Pressure Washer	None	Gracey Oilfield Services	
	Backhoe	None	Gracey Oilfield Services	
	Other	None	Gracey Oilfield Services	
Misc. Expenses	Tools	None	Gracey Oilfield Services	
	Materials	None	Gracey Oilfield Services	
	Other	None	Gracey Oilfield Services	



Wellington Water Works Facility Building



GAC Supply Tank & Walnut Shell Filter in Background



Former DAF Used as Backwash Storage Tank



Plant Floor, GACs, Plant Water Tank, Process Piping



Overhead Process Piping and Racks