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July 31, 2009

Mr. Lowell Spackman, District 1 Supervisor
Wyoming Department of Environmental Quality
Land Quality Division
Herschler Building, 3 Fl-West
122 West 25th Street
Cheyenne, WY 82002

RE: TFN 5 5/87, Bond Estimate Update, Permit to Mine No. 603, Response to Comments
(Re: WDEQ/LQD Letter Dated June 19, 2009)

Dear Mr. Spackman:

Power Resources, Inc. d/b/a Cameco Resources (CR) is herein submitting the responses to the WDEQ review of the surety estimate for Permit No. 603. Enclosed please find responses to your comments and two hard copies and an electronic copy of the updated surety. The response to comments includes updates to Permit 633 which is being submitted under separate cover under TFN 5 5/101.

If you have questions, please contact Ms. Dawn Kolkman at (307) 358-6541 x435.

A handwritten signature in black ink, appearing to read 'K.K. Wenzel'.

Krista K. Wenzel
Manager, Environment, Health and Safety

Attachment: Response to Comments 603/633, Updated Surety (2 copies and electronic copy)

cc: T. Cannon J. McCarthy A. Faunce S. Collings
S. Bakken M. Whatley D. Mandeville, NRC (2 copies)
File HUP 4.3.3.1 File SR 4.3.3.1 w/o atch

Responses to Land Quality Division Comments
TFN 5 5/87 and TFN 5 5/101, Surety Estimate Update
Cameco Resources Permit 603, Highland Uranium Project
And Partial Response to Permit 633, Smith Ranch

Cameco Resources (CR) has reviewed comments received from the Land Quality Division (LQD) on its bond estimates for Permit 603 under TFN 5 5/87 and for Permit 633 under TFN 5 5/101. The TFN 5 5/101 letter requested that CR consider comments on Permit 603 that also apply to Permit 633. Thus, the comments below apply to both permits and are being submitted under both TFNs. Additional comments received under TFN 5 5/101 for Permit 633 are provided only under that TFN. The following lists comments received from the LQD followed by CR responses.

1. Page 1. The totals on this page will need to be adjusted subsequent to the changes resulting from the comments below. (PCR)

CR Response: Totals were adjusted subsequent to changes from comments below.

2. Page 1. The contingency noted on the total bond estimate is shown as 15%. LQD is currently requiring a 25% contingency on non-coal projects with bond estimates in excess of \$500,000.00, i.e., see Guideline 12, Rev. 9/20/08, page 11, No. 12 Miscellaneous Items. Cameco Resources used 25 % contingency for the last annual report bond estimate. Please revise the contingency to show 25%. (PCR)

CR Response: CR expanded costs and used highest, worst case costs on many more of the costs in comparison to previous surety estimates, as evidenced by the increase in the overall bond amount from the 2007 bond. Most costs in the spreadsheet include profit and overhead; CR added notes next to these costs to show this. For example, labor includes 30% overhead, profit and overhead were added to Guideline 12 equipment costs, transport and disposal costs include profit and overhead, lab costs include profit and overhead, utilities and capital and parts/maintenance item purchases include profit and overhead, etc. Guideline 12 shows examples of various contingencies which represents lower percentage contingencies for higher bonds due to economy of scale. Using a 15% contingency is justified based upon that scale.

3. Page 2, *MIT Costs*. Wellfields A and B should continue to have MITs completed until decommissioning. Please add the cost for MITs for these wellfields. (PCR)

CR Response: MITs were added for wellfields A and B.

4. Building utility costs for the restoration period were not found in the bond estimate. These costs should be calculated for the entire restoration period for all facilities required to conduct the restoration and final reclamation of the wellfields. (PCR)

CR Response: Building utility costs were added. A master cost was added for electrical for the highest month of the year per cubic foot and included for each building under the BLDGS tab. Propane and natural gas costs were also added based on 2008 actual costs.

5. Irrigation maintenance and monitoring costs for Irrigator No. 1 and Irrigator No. 2 were not found in the bond estimate. These costs should be calculated for the entire restoration period. (PCR)

CR Response: Irrigator maintenance and monitoring costs for Irrigator No. 1 and Irrigator No. 2 were added to the MISC REC worksheet. Maintenance costs for Irrigator No. 1 are zero because it is out of service and future use is not projected to be necessary.

6. Page 3, *Supervisory Labor Costs*. Costs are not found for the additional labor required for groundwater restoration as included in previous annual reports under *Labor Costs*. Please provide the additional labor costs. In addition, according to the *Moxley Report* of November 21, 2007, staffing requirements for the restoration period have been under bonded. CR will need to provide adequate bond to cover reasonable staffing requirements for the groundwater restoration and surface reclamation period. (PCR)

CR Response: Costs for an Environmental Manager and Restoration Manager were added. Unit Cost rates include labor.

7. Vehicle Operation Costs are not found in the bond estimate. Please add these costs to complete the restoration and reclamation of the wellfields for the number of years required. (PCR)

CR Response: Vehicle operation costs have been added to the WF REC sheets for both Highland Uranium Project and Smith Ranch.

8. Page 3, *TOTAL RESTORATION COST PER WELLFIELD*. The totals shown for the wellfields in this line item are the same cost as shown for the wellfield costs in the line *Subtotal Monitoring and Sampling Costs per Mine Unit*. Please revise the cost per wellfield or remove the line. (PCR)

CR Response: The totals for the wellfields are not the same cost as shown for the monitoring and sampling costs. It is only the same for those fields that are restored and only have monitoring costs. With the addition of the MIT costs for wellfields A and B, it no longer appears that the rows are the same.

9. Page 3, *Capital Costs (for all Reclamation)*. In addition to the items listed on the table *Capital Program Costs* (page 27 of the bond estimate) and as noted in the *Moxley Report* dated November 21, 2007, CR should provide cost estimates for infrastructure and equipment maintenance, replacement and repairs that will be needed during the restoration and reclamation period such as membranes, pumps, piping, flanges, etc. As stated by Mr. Moxley, "...general wellfield renovations should be anticipated and included in the bond calculation." (PCR)

CR Response: Miscellaneous reclamation costs have been updated to include actual costs for infrastructure and equipment maintenance, replacement and repairs. This is in addition to membrane replacement costs which are shown for reverse osmosis in the UC RO BIO worksheets.

10. Page 4, *Well Abandonment (Wellfields), # of Monitoring Wells*. Please add the total number of monitoring wells in the *Totals* column. (PCR)

CR Response: A total for the number of monitor wells was included in the *Totals* column. This is an extra column for accounting purposes that is not used in the final calculations.

11. Page 4, *III, Removal of Contaminated Soil Around Wells*. Please add the total cost to remove contaminated soils to the *Totals* column. (PCR)

CR Response: The total cost was included in the *Totals* column. This is an extra column for accounting purposes that is not used in final calculations.

12. Page 4, *Section V, Waste Disposal Well Abandonment*. The last line *Total Waste Disposal Well Abandonment Costs* does not include the cost for the new DDW (\$51,024.97). Please add the cost to the total. (PCR)

CR Response: The spreadsheet equation was updated to include the cost for the new DDW on the Highland Uranium Project spreadsheet.

13. The approved restoration schedule includes deep disposal well Vollman 33-27. Please add the cost for the piping need to bring the Vollman well on line with the existing infrastructure. (PCR)

CR Response: These costs are included in the capital costs on the Mastercosts worksheet for the Highland Uranium Project spreadsheet. A note has been added to reflect this.

14. The approved permit Plate No. OP-1 shows a waste disposal well Vollman No. 1 located in Section 22, T36N, R73W. Please explain the status of this well and if it needs to be removed. If so, provide the costs to remove it. (PCR)

CR Response: Vollman No. 1 was an oil well that was abandoned by the oil company to include pulling the surface casing. No removal costs are needed.

15. Page 5, *Wellfield Piping*. The approximate length of piping per header house and the total length of piping has been substantially reduced from 15000 ft in the 2006-2007 Annual Report to 2000 ft in the 2007-2008 Annual Report. Please explain this reduction in length of piping. (PCR)

CR Response: The length of piping per header house is accurately estimated as follows: Multiply an average of 46 wells per header house by an average of 300 ft. of piping per well. The Highland Uranium Project and Smith Ranch sureties have been updated.

16. Page 5, *Wellfield Buildings and Equipment Removal and Disposal. Wellfield Piping, Well Pumps and Tubing, Buried Trunkline, Well Houses, and Header House* costs for Mine Unit C should be included in the estimates through the restoration period. Although the column header states it is included with MU/C, they could not be located. (PCR)

CR Response: This comment references the columns for "Mine Unit C-19N" and "Mine Unit C Haul Drifts". The piping, tubing, header houses, etc., are included in the sum of the "Mine Unit C" totals. They are included as columns in the WF REC tab with zero totals to be consistent with the headings in the GW REST tab where the columns are addressed separately from a restoration standpoint. The comment was expanded to further clarify.

17. Page 7, *Total Header House Removal and Disposal Costs shown as \$1,736,418* should be \$448,792. Please revise the number. (PCR)

CR Response: The number has been revised. This was a subtotal that was not used in the final calculation.

18. Page 8. The removal/loading and transportation/disposal costs for the RO could not be found in the bond estimate. Please add the cost. (PCR)

CR Response: Costs for the RO units were added to the Equipment (EQUIP) worksheet.

19. Page 8. The removal/loading and transportation/disposal costs for Satellite No. 3 has been removed from the table as shown on the bond estimate of the 2006-2007 Annual Report. Please include this cost estimate. (PCR)

CR Response: A column was added for Satellite No. 3 on the Highland Uranium Project spreadsheet.

20. Page 10. Please add the demolition and disposal costs for the Selenium Plant. (PCR)

CR Response: A column for the Selenium Plant was added to the Highland Uranium Project spreadsheet.

21. Page 10, *Disposal Costs*. CR is proposing to dispose of 100% of the buildings and 75% of concrete on-site. A permit from DEQ/Solid and Hazardous Waste Division (SHWD) may be required to allow this disposal. Please contact DEQ/SHWD for information on this potential requirement. If a SHWD permit is required, CR will need to include the cost for disposing off-site until that permit is issued. (PCR)

CR Response: CR contacted Mr. Anderson from DEQ/SHWD. He confirmed that a permit would be needed and it should not be a problem for a permit to be issued. He also stated there are no costs associated with obtaining the permit.

22. Page 10, *HCL Acid Wash, including labor (\$/ft²)*. The cost has been reduced from \$0.59 in the 2006-2007 Annual Report to \$0.25 in this revised bond estimate. Please justify the significant cost reduction. (PCR)

CR Response: On the Smith Ranch and Highland Uranium Project Unit Cost Decontamination (UC-DECON) worksheets the cost for the manlift rental was underestimated and the error was corrected. An incorrect square footage had been used to calculate the unit costs; this has been corrected.

23. Page 10, *Demolition Costs, Concrete Floor*. The *Area of Concrete Floor* is given in ft², however, the cost for *Demolition* from Guideline 12, Appendix K is given in ft³. Please make the necessary adjustments for the units to match for an accurate estimate of the costs. (PCR)

CR Response: Guideline 12, Appendix K uses ft².

24. Page 9. The transportation and disposal costs for the RO units have not been included. Please add the cost. (PCR)

CR Response: See response to item 18.

25. Pages 10 and 11. The reviewer assumes the *Central Plant, Dryer Bldg, Yellowcake Warehouse, South Warehouse, Suspended Walkway, Maintenance Bldg, Main Office and Office Trailers* are associated with the Highland Plant and Offices (opposed to the Central Process Plant). For clarification, please indicate this is the case, on these pages. (PCR)

CR Response: A note was added to the title clarifying that this is the case on the Highland Uranium Project spreadsheet.

26. Page 10, *Building Demolition and Disposal*. The deep well injection cost for decontamination in the Central Plant has been reduced from \$553,507 to \$177. Please justify this cost decrease. (PCR)

CR Response: In the 2007 Surety estimate, the value for the Central Plant was incorrectly calculated and failed to account for a factor of 1000 gallons to match the Kgal units. In that surety the values for the other buildings were correctly calculated. No change is necessary for the current surety.

27. Pages 12 and 13, *Building Demolition and Disposal*. The columns *Process/Fire Water Bldg, Potable Water Bldg., Potable Water Tank Slab, Exxon R&D RO Bldg., and Exxon R&D Process Bldg* have been removed for the section. Please explain the removal of these columns. (PCR)

CR Response: These were inadvertently omitted and have been added.

28. Page 10, *Building Demolition and Disposal*. The length of concrete footing for the building sites have been reduced as compared to the same lengths listed in the 2006-2007 Annual Report. Please justify the decrease in length of the footings. (PCR)

CR Response: The calculation for the length of the concrete footing has been corrected to use the square root of the area of the floor multiplied times four as in the past surety.

29. Page 12, *Total Decontamination Costs*. Please provide a total value in the row for this item. (PCR)

CR Response: Page 12 is a continuation of buildings from page 10. Total costs for all categories are on pg. 10. An electronic copy of both sureties is provided with this package to again assist with your review.

30. Groundwater Restoration Elution Costs. Please explain the removal of these costs from the bond estimate. (PCR)

CR Response: Costs of elution are associated with producing uranium for sale. No production is expected by a third party during restoration if the bond is employed.

31. Page 12, II, *Total Demolition Costs*. Please provide a value in the row for this item. (PCR)

CR Response: Please see response to item 29.

32. Page 13, *Total Disposal Costs*. Please provide a value in the row for this item. (PCR)

CR Response: Please see response to item 29.

33. Page 13, *TOTAL BUILDING DEMOLITION AND DISPOSAL COSTS*. Please provide the totals for this line. (PCR)

CR Response: Please see response to item 29.

34. A section is not found addressing wellfield pattern area reclamation and satellite area reclamation. Please add the costs to disk and seed the acres in all wellfields and satellites. (PCR)

CR Response: Sections have been added for both the Highland Uranium Project and Smith Ranch. See worksheet WF-SAT-SURF.

35. Page 14, *Access Road Reclamation*. The section of road from the Highland Loop Road to Satellite 2 will need to be added to the bond estimate. (PCR)

CR Response: This comment refers to a rancher's road for which Cameco will not be

responsible at close of operations. However, there is a small section of road from Satellite 2 to this rancher's road that will need to be reduced in width for rancher use. These costs have been added.

36. Page 14, *Access Road Reclamation*. The section of paved road from State Hwy 93 to Highland Process Plant and Offices will need to be added to the bond estimate. It is believed that this section will require removal of asphalt that should be included in the cost. (PCR)

CR Response: This is a county road and should not be added.

37. Page 14. The reviewer estimates twice as much footage of road that will need to be reclaimed than shown in the bond estimate. CR should provide a map of all roads that need reclaimed to support their estimate. (PCR)

CR Response: Please see Plate OP1 as submitted with the July 24, 2009 annual report.

38. Page 16, The information found on the CD (electronic format) includes *Irrigation Area Reclamation, Drilling Fluid Storage Cell Reclamation of Exxon Reclaimed Lands, Potential Mitigation Plan for Irrigator No. 1A, Potential Mitigation Plan for Irrigator No. 2, Potential Plan for Shallow Well Casing Leak Investigation and Miscellaneous Fence Removal Costs*. These costs are not provided on the paper copy submitted with the proposed bond estimate and could not be printed for the file. Please provide the paper copy of these sections of the bond estimate. (PCR)

CR Response: These items can be found on pages 20 and 21. Please note that the Drilling Fluid Storage Cell reclamation is complete and has been removed from the estimate.

39. Additional costs which should be included in the bond estimate are removal of booster stations, culverts, surface water monitoring stations, air quality monitoring stations, oxygen pads, drilling mud storage, drill water facility and fiber optics lines. Please add the costs for these items. (PCR)

CR Response: Air quality monitoring stations and surface water monitoring stations have not disturbed any area and will not require reclamation. The costs for header houses include booster stations and a note was added to the spreadsheets. Access road reclamation includes culverts (See Miscellaneous Reclamation (MISC REC) worksheet); a note was added to the spreadsheets. There are only two oxygen pads that are not located at a Satellite area. Those located at the Satellite areas are already accounted for. The remaining two oxygen pads are located at MU-15 and the CPP. Costs for removal of these have been added to the Smith Ranch MISC REC worksheet. Staging areas for drill mud are captured in the WF-SAT-SURF worksheets. Costs for removal of buried trunklines on the WF REC worksheets capture costs of removing fiber optics lines. Costs to remove the drill water facility and make available to the rancher were added.

40. The updated bond estimate is provided for the existing disturbance. According to the Wyoming Environmental Quality Act § 35-11-411 (a)(iii) costs for proposed new disturbances for the next one (1) year period must also be included in the bond estimate. CR will need to ensure additional costs for the 2009-2010 report period are included in the upcoming annual report submittal. No response required. (PCR)

CR Response: New disturbances have been projected. CR appreciates the reminder.

41. The number of MIT's per wellfield does not reflect the number of wells that will need to be tested. The Master Costs table lists a total of 4061 injection and production wells. However, the number of wells listed in the GW Restoration table to have MIT's for the life of the mine is listed as 3012 wells. MIT's are required every five years for all injection and production wells, therefore some of the wells will require more than one MIT and all wells will require at least one MIT. Assuming 33% of the wells will require two MIT's a total of 5,401 MIT's will be necessary. The listed cost is \$293.33 per well for an increase of \$683,159.00. (SI)

CR Response: In accordance with WDEQ-LQD, Chapter 11, Mechanical Integrity Tests are performed every five years on injection wells. The number of wells to have MIT's was calculated using only injection wells during the restoration period. No changes are needed to this section.

42. CR does not list removal costs for disposal of contaminated clay from the radium settling ponds. Item IV under MISC REC total disturbance (in square feet) = 128,899. Assuming the clay is contaminated to a depth of 1 foot CR must dispose of 128,899 cubic feet at the licensed facility in Shirley Basin. Disposal at an NRC licensed site = \$12.52/cubic foot. Therefore, the increase for this item is \$1,613,815. (SI)

CR Response: The clay liner was removed in 2003. Samples taken after the liner was removed show that most of the contaminated material was removed. These samples indicate a maximum area of potential contamination for disposal of 23,800 square feet to a depth of six inches. This has been updated in the surety. In addition, CR corrected the areas of the ponds and the link for removal and loading costs.

43. No costs have been included for chemical reduction or bio-remediation in the bond estimate. The 2009 bond estimate uses \$1.69/Kgal for bioremediation for fields currently in restoration. No bioremediation cost is used for fields that are currently producing. Section 4.3 of the permit document discusses the use of bioreduction/chemical reductant addition as a restoration step. Section 4.3.3 discusses bio-remediation/chemical reductant as a step to be used if certain parameters remain elevated during restoration efforts. (SI)

CR Response: Bioremediation has been included for Mine Unit C where it is currently in use. Use of bioremediation for other mine units would reduce the bond since the addition of bioremediation is expected to reduce the amount of time and water needed to restore a wellfield. It is our intent to include bioremediation in the bond in the future when we can fully justify the reduction in the number of pore volumes.

44. The groundwater restoration portion of the bond estimate does not include the restoration costs for MU-C North or the Mine Unit C haulage drifts, however these costs are included in the Wellfield C surface reclamation costs. It is unclear if the groundwater restoration costs for these units are included in the Wellfield C costs. Please clarify that the groundwater restoration costs for MU-C North and the Mine Unit C haulage drifts is included in the Wellfield C total. (SI)

CR Response: See response to item 16. This has been clarified in the spreadsheets.

45. The deep disposal well MIT costs are listed for only one 5-year MIT. There are three deep disposal wells included in the bond estimate and assuming two MIT tests will be required it is recommended that the bond for this item be increased by \$17,723.00. (SI)

CR Response: Highland Uranium Project and Smith Ranch sureties have been amended to account for two MIT tests per deep disposal well.

46. The deep disposal well plugging and abandonment cost is listed as \$4.37/foot. The WQD recommends \$11.91/foot based on the Gene George recommendations for plugging and abandonment for the CR deep disposal wells. Therefore, the increase for this item is \$197,140.91. (SI)

CR Response: WA worksheets have been updated to use the recommended costs.

46. (CR Note: This should be item Number 47). The UC-WA table states that 0.059 sacks of cement are used per foot. The EPA (from the UIC inspectors training course) states that 0.12 sacks of cement per foot are needed. This change will increase the per foot cost from 0.96/foot to \$1.32/foot. Item 3 for the UC-WA table states that the labor cost requires two laborers for 0.5 hours to install chips, etc. Item 2 states that the rig time per location is 2.5 hours. The labor time should equal the rig time and be 2.5 hours. The labor cost is not included in the estimate. These changes result in a \$1.44/foot cost to plug and abandon wells. Also, the total footage in the WA table does not include wellfields, F, 27-H, I and J. The bond increase for this item is \$1,302,696.00. (SI)

CR Response: The quantity of cement has been updated. Labor time of 2.5 hours has been added to the estimate. The additional wellfields have been added.

CR also noted and made the following changes and is numbering them sequentially for ease in reference.

48. On the HUP Wellfield Reclamation (WF REC) worksheet in the Mine Unit C Haul Drift column, the value for the 1 inch carbon steel trunkline pipe length was removed since this does not occur on site.

49. On the SR and HUP Equipment (EQUIP) worksheets, labor for Removal and Loading Costs

for the Tankage was included twice in the equation for the totals. This error was corrected to only account for the cost once.

50. Sample analytical costs were corrected to reflect costs associated with a third party contract lab instead of "in-house" as previously provided.

51. Capital costs have been amended to include costs for the NRC license and inspections.

52. The costs for removing contaminated soil were removed from the UC-SAT SURF worksheets; these cost estimates had been added to the UC-WA and WA worksheets.

53. Transportation and disposal costs for pumps and tubing was corrected to represent costs per cubic foot rather than per cubic yard.

Highland Uranium Project 2009 Surety Estimate Revision

The 2009 Highland Uranium Project Surety Estimate was revised to follow the WDEQ-LQD standardized bond format and, where applicable, the cost estimates provided in WDEQ-LQD Guideline No. 12. At the request of the NRC, PRI has revised the Surety Estimate calculations to include a number of different line item changes. First, a recurring spreadsheet has been added to identify costs that are used throughout the Surety Estimate. In this spreadsheet a column was included to identify sources for individual line item costs. As one would expect a large number of the costs sources are based on operating experience and costs. For a large number of the cost items operating experience or costs is not only the best justifications of a given costs but often the only source of information to generate an input values for the surety estimate.

The first spreadsheet is a summary of costs from the next seven major spreadsheets. Additional topic specific spreadsheets were also added in the estimate to identify line item justification of the values used in the Surety Estimate. Costs input into those major spreadsheets are generally broken down into unit costs in the next spreadsheets, titled "UC-topic". The final sheet titled "Master Cost Basis" has the majority of the input costs that are used throughout the spreadsheets. Input costs are also shown in blue to show they were not taken from elsewhere.

Cameco Resources
Smith Ranch - Highland Uranium Project
Surety Estimate

Highland Uranium Project Reclamation Cost Estimate, 26 Feb 2009 (Revised 30 Jul 2009)

I.	Groundwater Restoration (GW REST Sheet)			\$29,448,588
II.	Well Abandonment and Wellfield Reclamation (WA, WF REC, WF-SAT-SURF Sheets)			\$9,635,380
III.	Equipment and Building Costs (EQUIP, BLDGS Sheets)			\$2,590,568
IV.	Miscellaneous Site Reclamation (MISC REC Sheet)			\$1,338,906
	Subtotal Reclamation Cost			\$43,013,442
		Contingency	15%	\$6,452,016
			TOTAL	\$49,465,458

**Cameco Resources
Smith Ranch - Highland Uranium Project
Surety Estimate**

Ground Water Restoration													
	Mine Unit-A	Mine Unit-B	Mine Unit-C	Mine Unit-C19N	Mine Unit-C Head Drifts	Mine Unit-D	Mine Unit-D Ext	Mine Unit-E	Mine Unit-F	Mine Unit-H	Mine Unit-I	Mine Unit-J	
I. Ground Water Sweep Costs													
Estimated PVs	0	0	0	0	0	1	1	1	1	1	1	1	
Total Kgal for GWS	0	0	0	0	0	28046	17296	81658	221800	94815	115820	86995	(46430)
Bleed to Deep Disposal Well (%)	100	100	100	100	100	100	100	100	100	100	100	100	
Groundwater Sweep Unit Cost (\$/Kgal)	\$3.41	\$3.41	\$3.41	\$3.41	\$3.41	\$3.41	\$3.41	\$3.41	\$3.41	\$3.41	\$3.41	\$3.41	
Subtotal Ground Water Sweep Costs per Wellfield	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$95,506.11	\$58,898.72	\$278,073.08	\$755,303.95	\$322,877.11	\$394,406.24	\$296,247.37	\$2,201,312.56
Total Ground Water Sweep Costs	\$2,201,312.56												
II. Reverse Osmosis Costs													
Estimated PVs	0	0	2	0	8	8	8	8	8	8	8	8	
Total Kgal for RO	0	0	137922	0	224368	138368	653264	1774400	758520	926500	695960	5309362	
Bleed to Deep Disposal Well (%)	25	25	25	25	25	25	25	25	25	25	25	25	
Reverse Osmosis Unit Cost (\$/Kgal)	\$1.56	\$1.56	\$1.56	\$1.56	\$1.56	\$1.56	\$1.56	\$1.56	\$1.56	\$1.56	\$1.56	\$1.56	
Subtotal Reverse Osmosis Costs per Wellfield	\$0.00	\$0.00	\$214,710.07	\$0.00	\$0.00	\$349,284.88	\$215,404.38	\$1,016,968.73	\$2,762,297.20	\$1,180,826.01	\$1,442,422.28	\$1,083,435.73	\$8,265,349.28
Total Reverse Osmosis Costs	\$8,265,349.28												
III. Bioremediation Costs													
Estimated PVs	0	0	2	2	6	0	0	0	0	0	0	0	
Total Kgal for Bioremediation	0	0	137922	39382	0	0	0	0	0	0	0	0	177304
Bleed to Deep Disposal Well (%)	25	25	25	25	25	25	25	25	25	25	25	25	
Chemical Reductant Unit Cost (\$/Kgal)	\$1.69	\$1.69	\$1.69	\$1.69	\$1.69	\$1.69	\$1.69	\$1.69	\$1.69	\$1.69	\$1.69	\$1.69	
Subtotal Bioremediation Costs per Wellfield	\$0.00	\$0.00	\$466,526.68	\$133,211.19	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$599,737.87
Total Bioremediation Costs	\$599,737.87												
IV. MIT Costs													
MIT Costs per Well	\$293.33	\$293.33	\$293.33	\$293.33	\$293.33	\$293.33	\$293.33	\$293.33	\$293.33	\$293.33	\$293.33	\$293.33	
Restoration period, Excluding Bleem Except in MU-C (months)	2	2	7.87	0.00	0.00	17.08	10.53	49.72	135.04	57.72	70.52	52.96	
Number of Wells MITd for Life of Mine Unit	2	224	45	0	0	21	12	176	1,965	304	277	212	
Subtotal MIT Mine Unit	\$586.67	\$65,706.67	\$13,200.00	\$0.00	\$0.00	\$6,180.53	\$3,449.60	\$51,432.80	\$576,353.07	\$89,173.33	\$81,364.80	\$62,139.73	\$949,687.20
3-year MIT Costs for Disposal Wells	\$5,907.53												
Number of DDWs	3												
Number of MITs per DDW	2												
Total MIT Costs	\$985,132.38												
V. Monitoring and Sampling Costs													
Guideline # analysis =	\$333.00	analysis											
6 parameter contract laboratory analysis =	\$30.00	analysis											
Total monitor wells	3	97	97	0	0	38	20	86	149	81	39	57	340
Groundwater sweep duration (months)	0.00	0.00	0.00	0.00	0.00	4.27	2.63	12.43	33.76	14.43	17.63	13.24	98.39
Reverse Osmosis duration (months)	0.00	0.00	7.87	0.00	0.00	12.81	7.90	37.29	101.28	43.29	52.89	29.72	303.05
Bioremediation (months) information only, data being compiled	0.00	0.00	7.87	2.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.12
Stabilization duration (months)	12	12	12	12	12	12	12	12	12	12	12	12	
A. Monitor Well Sampling													
1. Well Sampling prior to restoration start													
# of Wells	2	97	97	0	0	38	20	86	149	81	39	57	
\$/sample	\$333.00	\$333.00	\$333.00	\$333.00	\$333.00	\$333.00	\$333.00	\$333.00	\$333.00	\$333.00	\$333.00	\$333.00	
2. Groundwater Sweep Sampling (quarterly)													
# of Wells	2	97	97	0	0	38	20	86	149	81	39	57	
Total # samples	0	0	0	0	0	64	20	373	1689	405	234	266	3051
\$/sample	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	
3. RO Sampling (quarterly)													
# of Wells	2	97	97	0	0	38	20	86	149	81	39	57	
Total # samples	0	0	359	0	0	165	54	1061	5017	1161	689	760	9166
\$/sample	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	
4. Stabilization Sampling (Guideline #, quarterly)													
# of Wells	3	280	220	30	10	95	80	140	445	345	165	165	3085
Total # samples	30	280	220	30	10	95	80	140	445	345	165	165	3085
\$/sample	\$333.00	\$333.00	\$333.00	\$333.00	\$333.00	\$333.00	\$333.00	\$333.00	\$333.00	\$333.00	\$333.00	\$333.00	
5. Stabilization Sampling (6 parameter bi-monthly)													

Cameco Resources
Smith Ranch - Highland Uranium Project
Surety Estimate

Ground Water Restoration													
	Mine Unit-A	Mine Unit-B	Mine Unit-C	Mine Unit-C19N	Mine Unit-C Haul Drifts	Mine Unit-D	Mine Unit-D Ext	Mine Unit-E	Mine Unit-F	Mine Unit-H	Mine Unit-I	Mine Unit-J	
# of Wells	6	56	44	6	2	19	16	28	89	69	33	33	
Total # samples	12	582	582	0	0	228	120	516	894	486	234	342	3996
\$/sample	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00
6. Monitor Well Sampling													
# of Wells	2	97	97	0	0	38	20	86	149	81	39	57	
\$/sample	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00
Total # samples (2.2/mo) (w entire period)	53	2561	5920	0	0	2431	991	11677	48200	12424	7080	8146	99483
7. Other Laboratory Costs Radon, urinalysis, etc.													
\$/month	\$912.00												
Total (w Other Laboratory Costs)	\$54,720.00	\$54,720.00	\$7,177.44	\$0.00	\$0.00	\$15,576.96	\$9,603.36	\$45,344.64	\$123,156.48	\$52,640.64	\$64,314.24	\$48,299.52	
Subtotal Monitoring and Sampling Costs per Mine Unit	\$67,326.00	\$274,551.00	\$315,568.44	\$9,990.00	\$3,330.00	\$146,505.96	\$78,453.36	\$529,412.64	\$1,994,958.48	\$628,778.64	\$379,356.24	\$407,645.52	
Total Monitoring and Sampling Costs	\$4,835,876.28												
VI. Supervisory Labor Cost (for all Reclamation)													
Environmental Manager/RSO Support													
\$/month	\$7,527.40												
Restoration Manager Support													
\$/month	\$5,908.12												
HIP Technician support													
\$/month	\$4,255.11												
Active restoration period (months)	60.00	60.00	7.87	0.00	0.00	17.08	10.53	49.72	135.04	57.72	70.52	52.96	
Stabilization period (months)	12	12	12	12	12	12	12	12	12	12	12	12	
Total Restoration Period	12.5 years												
Manager support during restoration	\$2,015,328.90												
HIP Technician support during restoration	\$638,266.20												
Total Supervisory Labor Costs	\$2,653,595.10												
TOTAL RESTORATION COST PER WELLFIELD	\$67,912.67	\$340,257.67	\$1,010,005.19	\$143,201.19	\$3,330.00	\$597,477.48	\$356,206.06	\$1,875,987.25	\$6,088,912.70	\$2,221,655.09	\$2,297,549.56	\$1,849,468.35	
VII. Capital Costs (for all Reclamation)	\$9,943,030.00												
TOTAL GROUND WATER RESTORATION COSTS	\$29,448,588.31												

Cameco Resources
Smith Ranch - Highland Uranium Project
Surety Estimate

Well Abandonment

	Mine Unit-A	Mine Unit-B	Mine Unit-C	Mine Unit-C 19N	Mine Unit-C Haul D	Mine Unit-D	Mine Unit-D Ext	Mine Unit-E	Mine Unit-F	Mine Unit-H	Mine Unit-I	Mine Unit-J	Totals
I. Well Abandonment (Wellfields)													
# of Production Wells	2	141	190	0	0	43	30	119	459	154	125	118	1381
# of Injection Wells	2	224	343	0	0	74	67	212	873	316	236	240	2387
# of Monitoring Wells	2	97	97	0	0	38	20	86	149	81	30	57	666
Total Number of Wells	6	462	630	0	0	155	117	417	1481	551	400	415	4634
Average Diameter of Casing (inches)	5	5	5	5	5	5	5	5	5	5	5	5	5
Production, Injection and Perimeter Well Average Depth (ft)	500	450	550	550	550	600	600	550	650	500	650	540	544
Total Mine Unit Well Depth (ft)	3000	207000	346500	0	0	93000	70200	229350	962650	275500	260400	224100	949950
Well Abandonment Unit Cost (\$/ft of well)	\$1.45	\$1.45	\$1.45	\$1.45	\$1.45	\$1.45	\$1.45	\$1.45	\$1.45	\$1.45	\$1.45	\$1.45	\$1.45
Subtotal Abandonment Cost per Wellfield	\$4,350.00	\$301,455.00	\$507,425.00	\$0.00	\$0.00	\$134,850.00	\$101,790.00	\$332,537.50	\$1,395,842.50	\$399,475.00	\$377,000.00	\$324,945.00	\$3,974,690.00
II. Downhole Pump Disposal													
Number of Downhole Pumps	1381												
Pump Disposal Volume (ft ³)	0.53												
Total Pump Disposal Volume (yd ³)	25.6												25.6
Downhole Pump Disposal Rate (\$/yd ³)	\$338.00												338.00
Subtotal Downhole Pump Disposal	\$8,652.80												\$8,652.80
III. Removal of Contaminated Soil Around Wells													
# of Production and Injection Wells	3668												
Cost per well (\$/well)	120.96												
Subtotal Removal of Soil Around Wells	\$479,969.28												\$479,969.28
IV. Delineation Hole Abandonment													
# of Projected Holes	0	0	0	0	0	0	0	0	0	0	0	0	0
Average Depth (ft)	500	450	550	550	550	600	600	550	650	500	650	540	540
Hole Abandonment Unit Cost (\$/ft of hole)	\$1.45	\$1.45	\$1.45	\$1.45	\$1.45	\$1.45	\$1.45	\$1.45	\$1.45	\$1.45	\$1.45	\$1.45	\$1.45
Site Reclamation (\$/site)	\$34.10	\$34.10	\$34.10	\$34.10	\$34.10	\$34.10	\$34.10	\$34.10	\$34.10	\$34.10	\$34.10	\$34.10	\$34.10
Subtotal Hole Abandonment per Wellfield	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
V. Waste Disposal Well Abandonment													
A. Well Sealing													
Sealing cost per foot (in Reynolds UIC permit)	\$11.91	\$11.91	\$11.91										
Subtotal Mugging Costs per Well	\$107.190	\$119.100	\$119.100										
B. Pump Dismantling and Decontamination													
Number of Persons	2	2	2										
Number of Pumps	2	2	2										
Days/Day	0.5	0.5	0.5										
Number of Days	4	4	4										
\$/Day/Person	\$210	\$210	\$210										
Subtotal Dismantling and Decon Costs per Well	\$1,684	\$1,684	\$1,684										
C. Tubing String Disposal (NRC-Licensed Facility)													
Length of Tubing String (ft)	9,100	10,100	10,100										
Diameter of Tubing String (inches)	2,875	2,875	2,875										
Volume of Tubing String (ft ³)	406	451	451										
Transportation and Disposal Unit Cost (\$/ft ³)	\$12.52	\$12.52	\$12.52										
Subtotal Tubing String Disposal Costs per Well	\$5,077	\$5,641	\$5,641										
Subtotal Waste Disposal Well Abandonment Costs per Well	\$113,950.97	\$126,424.97	\$126,424.97										
Total Waste Disposal Well Abandonment Costs	\$366,800.90												
Total Wellfield Abandonment Costs	\$4,730,114.43												

Cameco Resources
Smith Ranch - Highland Uranium Project

Surety Estimate

Wellfield Buildings and Equipment Removal and Disposal	Mine Unit-A	Mine Unit-B	Mine Unit-C	Mine Unit-C 19N	Mine Unit-C Haul Drifts	Mine Unit-D	Mine Unit-D	Mine Unit-E	Mine Unit-F	Mine Unit-H	Mine Unit-I	Mine Unit-J
I. Wellfield Piping				Not Used, Included w/MU-C								
Number of Header Houses per Wellfield	5	18	20	0	0	4	3	15	43	10	6	9
Approximate Length of Piping per Header House (ft) (ave. 46 wells per with 3	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800
Approximate Total Length of Piping (ft)	69000	248400	276000	0	0	8000	41400	207000	593400	138000	82800	124200
A. Removal and Loading												
Wellfield Piping Removal Unit Cost (\$/ft of pipe)	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85
Subtotal Wellfield Piping Removal and Loading Costs	\$58,650	\$211,140	\$234,600	\$0	\$0	\$6,800	\$35,190	\$175,950	\$504,390	\$117,300	\$70,380	\$105,570
B. Transport and Disposal Costs (NRC-Licensed Facility)												
Average Diameter of Piping (inches)	2	2	2	2	2	2	2	2	2	2	2	2
Chipped Volume Reduction (ft ³ /ft)	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Chipped Volume per Wellfield (ft ³)	345	1242	1380	0	0	40	207	1035	2967	690	414	621
Volume for Disposal Assuming 10% Void Space (ft ³)	380	1366	1518	0	0	44	228	1139	3264	759	455	683
Transportation and Disposal Unit Cost (\$/ft ³)	\$12.52	\$12.52	\$12.52	\$12.52	\$12.52	\$12.52	\$12.52	\$12.52	\$12.52	\$12.52	\$12.52	\$12.52
Subtotal Wellfield Piping Transport and Disposal Costs	\$4,757	\$17,100	\$19,003	\$0	\$0	\$551	\$2,854	\$14,259	\$40,860	\$9,502	\$5,696	\$8,550
Wellfield Piping Costs per Wellfield	\$63,407	\$228,240	\$253,603	\$0	\$0	\$7,351	\$38,044	\$190,209	\$545,250	\$126,802	\$76,076	\$114,120
Total Wellfield Piping Costs	\$1,643,102											
II. Well Pumps and Tubing												
Assumptions:												
60% of production/injection wells contain pumps and/or tubing												
A. Pump and Tubing Transportation and Disposal												
Number of Production Wells	2	141	190	0	0	43	30	119	459	154	125	118
Number of Injection Wells	2	224	343	0	0	74	67	212	873	316	236	240
1. Pump Volume												
Number of Production Wells with Pumps	1	85	114	0	0	26	18	71	275	92	75	71
Average Pump Volume (ft ³)	1	1	1	1	1	1	1	1	1	1	1	1
Pump Volume per Wellfield (ft ³)	1	85	114	0	0	26	18	71	275	92	75	71
2. Tubing Volume												
Assumptions:												
Average tubing length/wellfield based on average well depth minus 25 ft												
Number of Production Wells with Tubing	1	85	114	0	0	26	18	71	275	92	75	71
Number of Injection Wells with Tubing	1	134	206	0	0	44	40	127	524	190	142	144
Average Tubing Length per Well (ft)	475	425	525	525	525	575	575	525	625	475	625	515
Tubing Length per Wellfield (ft)	950	93075	168000	0	0	40250	33350	103950	499375	133950	135625	110725
Diameter of Production Well Fiberglass Tubing (inches)		2	2	2	2	2	2	2	2	2	2	2
Diameter of Injection Well HDPE Tubing (inches)	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
Chipped Volume Reduction (ft ³ /ft)	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Chipped Volume per Wellfield (ft ³)	5	465	840	0	0	201	167	520	2497	670	678	554
Volume of Pump and Tubing (ft ³)	6	550	954	0	0	227	185	591	2772	762	753	625
Volume for Disposal Assuming 10% Void Space (ft ³)	7	605	1049	0	0	250	204	650	3049	838	828	688
Transportation and Disposal Unit Cost (\$/ft ³)	\$12.52	\$12.52	\$12.52	\$12.52	\$12.52	\$12.52	\$12.52	\$12.52	\$12.52	\$12.52	\$12.52	\$12.52
Pump and Tubing Transport and Disposal Costs Per Wellfield	\$88	\$7,574	\$13,132	\$0	\$0	\$3,130	\$2,554	\$8,137	\$38,169	\$10,491	\$10,365	\$8,613
Total Pump and Tubing Costs	\$102,253											
III. Buried Trunkline (Includes \$ for fiber optic cable removal)												
Assumptions:												
Length of Trunkline Trench (ft)	6500	0	5900	0	0	12000	5500	0	11700	13200	10750	2500
A. Removal and Loading												
Main Pipeline Removal Unit Cost (\$/ft of trench)	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85
Subtotal Trunkline Removal and Loading Costs	\$5,525	\$0	\$5,015	\$0	\$0	\$10,200	\$4,675	\$0	\$9,945	\$11,220	\$9,138	\$2,125
B. Transport and Disposal Costs (NRC-Licensed Facility)												
1. 1" Carbon Steel Trunkline												
Piping Length (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Volume (ft ³)	0	0	0	0	0	0	0	0	0	0	0	0
2. 1" HDPE Trunkline												
Piping Length (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Chipped Volume Reduction (ft ³ /ft)	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Chipped Volume (ft ³)	0	0	0	0	0	0	0	0	0	0	0	0
3. 3" HDPE Trunkline												

Cameco Resources
Smith Ranch - Highland Uranium Project
Surety Estimate

Wellfield Buildings and Equipment Removal and Disposal	Mine Unit-A	Mine Unit-B	Mine Unit-C	Mine Unit-C	Mine Unit-C	Mine Unit-D	Mine Unit-D	Mine Unit-E	Mine Unit-F	Mine Unit-H	Mine Unit-I	Mine Unit-J	
	19N	Haul Drifts	19N	Haul Drifts	19N	Haul Drifts	19N	Haul Drifts	19N	Haul Drifts	19N	Haul Drifts	
Piping Length (ft)	6500	0	5900	0	0	12000	5500	0	11700	13200	10750	0	29900
Chipped Volume Reduction (ft ³ /ft)	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022
Chipped Volume (ft ³)	143	0	130	0	0	264	121	0	257	290	237	0	
4. 6" HDPE Trunkline													
Piping Length (ft)	0	0	0	0	0	0	11000	0	0	0	3000	0	14000
Chipped Volume Reduction (ft ³ /ft)	0.078	0.078	0.078	0.078	0.078	0.078	0.078	0.078	0.078	0.078	0.078	0.078	0.078
Chipped Volume (ft ³)	0	0	0	0	0	0	858	0	0	0	234	0	
5. 18" HDPE Trunkline													
Piping Length (ft)	0	0	0	0	0	0	0	0	0	0	0	0	0
Chipped Volume Reduction (ft ³ /ft)	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Chipped Volume (ft ³)	0	0	0	0	0	0	0	0	0	0	0	0	0
6. 10" HDPE Trunkline													
Piping Length (ft)	13000	0	0	0	0	0	0	0	0	0	750	2000	13750
Chipped Volume Reduction (ft ³ /ft)	0.277	0.277	0.277	0.277	0.277	0.277	0.277	0.277	0.277	0.277	0.277	0.277	0.277
Chipped Volume (ft ³)	3601	0	0	0	0	0	0	0	0	0	208	554	
7. 12" HDPE Trunkline													
Piping Length (ft)	0	0	11800	0	0	24000	0	0	0	0	0	2000	35800
Chipped Volume Reduction (ft ³ /ft)	0.293	0.293	0.293	0.293	0.293	0.293	0.293	0.293	0.293	0.293	0.293	0.293	0.293
Chipped Volume (ft ³)	0	0	3457	0	0	7032	0	0	0	0	0	586	
8. 14" HDPE Trunkline													
Piping Length (ft)	0	0	0	0	0	0	0	0	23400	26400	8500	0	23400
Chipped Volume Reduction (ft ³ /ft)	0.359	0.359	0.359	0.359	0.359	0.359	0.359	0.359	0.359	0.359	0.359	0.359	0.359
Chipped Volume (ft ³)	0	0	0	0	0	0	0	0	8401	9478	3052	0	
9. 14" HDPE Trunkline													
Piping Length (ft)	0	0	0	0	0	0	0	0	23400	26400	8500	0	23400
Chipped Volume Reduction (ft ³ /ft)	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Chipped Volume (ft ³)	0	0	0	0	0	0	0	0	9360	10560	3400	0	
10. 18" HDPE Trunkline													
Piping Length (ft)	0	0	0	0	0	0	0	0	0	0	0	0	0
Chipped Volume Reduction (ft ³ /ft)	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62
Chipped Volume (ft ³)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Trunkline Chipped Volume (ft³)	3744	0	3587.2	0	0	7296	979	0	18018	20328	7129.75	1140	
Volume for Disposal Assuming 10% Void Space (ft ³)	4118	0	3946	0	0	8026	1077	0	19820	22361	7843	1254	
Transportation and Disposal Unit Cost (\$/ft ³)	\$12.52	\$12.52	\$12.52	\$12.52	\$12.52	\$12.52	\$12.52	\$12.52	\$12.52	\$12.52	\$12.52	\$12.52	\$12.52
Subtotal Trunkline Transport and Disposal Costs	\$51,551	\$0	\$49,398	\$0	\$0	\$100,474	\$13,482	\$0	\$248,117	\$279,927	\$98,183	\$15,698	
Trunkline Decommissioning Costs per Wellfield	\$57,076	\$0	\$54,413	\$0	\$0	\$110,674	\$18,157	\$0	\$258,062	\$291,147	\$107,321	\$17,823	
Total Trunkline Decommissioning Costs	\$914,673												
IV. Well Houses				Inc w/MU-C	Inc w/MU-C								
Total Quantity	40	490	552	0	0	117	97	331	1347	470	361	285	
Average Well House Volume (ft ³)	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	
A. Removal													
Total Volume (ft ³)	167.4	911.4	1026.72	0	0	217.62	180.42	615.66	2505.42	874.2	671.46	530.1	
Demolition Unit Cost per WDEQ Guideline No.12, App.K (\$/ft ³)	\$0.258	\$0.258	\$0.258	\$0.258	\$0.258	\$0.258	\$0.258	\$0.258	\$0.258	\$0.258	\$0.258	\$0.258	
Subtotal Well House Demolition Costs	\$43	\$235	\$265	\$0	\$0	\$56	\$47	\$159	\$646	\$225	\$173	\$137	
B. Survey and Decontamination													
Cost per Well House	4.57	4.57	4.57	4.57	4.57	4.57	4.57	4.57	4.57	4.57	4.57	4.57	
Subtotal Survey and Decontamination Costs	\$411	\$2,240	\$2,534	\$0	\$0	\$535	\$443	\$1,513	\$6,158	\$2,149	\$1,650	\$1,303	
C. Disposal at NRC licensed Facility													
Total Volume (cy)	6	34	38	0	0	8	7	23	93	32	25	20	
Volume for Disposal Assuming 10% Void Space (cy)	7	37	42	0	0	9	7	25	102	36	27	22	
Transportation and Disposal Unit Cost (\$/ft ³)	\$12.52	\$12.52	\$12.52	\$12.52	\$12.52	\$12.52	\$12.52	\$12.52	\$12.52	\$12.52	\$12.52	\$12.52	
Subtotal NRC Licensed Facility Disposal Costs	\$88	\$463	\$526	\$0	\$0	\$113	\$88	\$313	\$1,277	\$451	\$338	\$275	
Well House Removal and Disposal Costs per Wellfield	\$542	\$2,938	\$3,315	\$0	\$0	\$704	\$578	\$1,985	\$8,081	\$2,825	\$2,161	\$1,715	
Total Well House Removal and Disposal Costs	\$24,844												
V. Header Houses (Includes Booster Stations)													

Cameco Resources
Smith Ranch - Highland Uranium Project
Summary Estimate

Wellfield Buildings and Equipment Removal and Disposal	Mine Unit-A	Mine Unit-B	Mine Unit-C	Mine Unit-C	Mine Unit-C	Mine Unit-D	Mine Unit-D	Mine Unit-E	Mine Unit-F	Mine Unit-H	Mine Unit-I	Mine Unit-J
	5	18	20	19N	Haul Drifts	4	3	15	43	10	6	9
Total Quantity	5	18	20	0	0	4	3	15	43	10	6	9
Average Header House Volume (ft ³)	800	800	800	800	800	800	800	800	800	800	800	800
A. Removal												
Total Volume (ft ³)	4000	14400	16000	0	0	3200	2400	12000	34400	8000	4800	7200
Demolition Unit Cost per WDEQ Guideline No. 12, App. K (\$/ft ³)	\$0.236	\$0.236	\$0.236	\$0.236	\$0.236	\$0.236	\$0.236	\$0.236	\$0.236	\$0.236	\$0.236	\$0.236
Subtotal Building Demolition Costs	\$945	\$3,402	\$3,780	\$0	\$0	\$756	\$567	\$2,835	\$8,128	\$1,890	\$1,134	\$1,701
B. Survey and Decontamination												
Cost per Header House	\$368	\$368	\$368	\$368	\$368	\$368	\$368	\$368	\$368	\$368	\$368	\$368
Subtotal Survey and Decontamination Costs	\$1,842	\$6,630	\$7,367	\$0	\$0	\$1,473	\$1,105	\$5,525	\$15,839	\$3,684	\$2,210	\$3,315
C. Disposal												
Total Volume (cy)	148	533	593	0	0	119	89	444	1274	296	178	267
Volume for Disposal Assuming 10% Void Space (cy)	163	587	652	0	0	130	98	489	1401	326	196	293
Disposal Unit Cost per WDEQ Guideline No. 12, App. K (\$/cy)	\$7.56	\$7.56	\$7.56	\$7.56	\$7.56	\$7.56	\$7.56	\$7.56	\$7.56	\$7.56	\$7.56	\$7.56
Subtotal On-Site Disposal Costs	\$1,232	\$4,438	\$4,930	\$0	\$0	\$983	\$741	\$3,697	\$10,593	\$2,465	\$1,482	\$2,215
Headerhouse Soil Removal Volume ft ³ (assumes 10'Wx20'Lx2.5'D)	500	500	500	500	500	500	500	500	500	500	500	500
Disposal Unit Cost (\$/ft ³)	\$5.22	\$5.22	\$5.22	\$5.22	\$5.22	\$5.22	\$5.22	\$5.22	\$5.22	\$5.22	\$5.22	\$5.22
Subtotal Off-Site Disposal Costs	\$13,056	\$47,000	\$52,222	\$0	\$0	\$10,444	\$7,833	\$39,167	\$112,278	\$26,111	\$15,667	\$23,500
Header House Removal and Disposal Costs per Wellfield	\$17,075	\$61,470	\$68,299	\$0	\$0	\$13,656	\$10,246	\$51,224	\$146,838	\$34,150	\$20,493	\$30,731
Total Header House Removal and Disposal Costs	\$454,182											
TOTAL REMOVAL AND DISPOSAL COSTS PER WELLFIELD	\$138,188	\$300,222	\$392,762	\$0	\$0	\$135,515	\$69,579	\$251,555	\$996,400	\$465,415	\$216,416	\$173,002
VI Vehicle Operation Costs												
Number of Pickup Trucks/Pulling Units (Gas)	10											
Unit Cost in \$/hr (WDEQ Guideline No. 12, Table D-1)	\$29.28											
Average Operating Time (Hrs/Year)	1000											
Total Number of Years (Average)	5											
Total Vehicle Operation Costs	\$1,464,000											
TOTAL WELLFIELD BUILDINGS AND EQUIPMENT REMOVAL	\$4,603,054											

Cameco Resources
Smith Ranch - Highland Uranium Project
Surety Estimate

Wellfield and Satellite Surface Reclamation	Mine Unit-A/B	Mine Unit-C	Mine Unit-D	Mine Unit-E	Mine Unit-F	Mine Unit-H	Mine Unit-D Ext.	Mine Unit-I	Mine Unit-J	Mine Unit-JA
I. Wellfield Pattern Area Reclamation										
Pattern Area (acres)	19	10	5.5	22	76	25	4	30	27	13
Disking/Seeding Unit Cost (\$/acre)	\$685	\$685	\$685	\$685	\$685	\$685	\$685	\$685	\$685	\$685
Subtotal Pattern Area Reclamation Costs per Wellfield	\$13,020	\$20,558	\$3,769	\$15,076	\$52,081	\$17,132	\$2,741	\$13,706	\$18,503	\$0
Total Wellfield Pattern Area Reclamation Costs	\$156,586									
II. Wellfield Road Reclamation										
Road Construction										
Length of Wellfield Roads (1000 ft)	12.8	11.3	2.4	13.3	18	15.7	5	5	5	1
Wellfield Road Reclamation Unit Cost (\$/1000 ft)	\$1,173	\$1,173	\$1,173	\$1,173	\$1,173	\$1,173	\$1,173	\$1,173	\$1,173	\$1,173
Wellfield Road Reclamation Costs	\$15,014	\$13,255	\$2,815	\$15,601	\$21,114	\$18,416	\$5,865	\$5,865	\$5,865	\$1,173
Total Wellfield Road Reclamation Costs	\$104,983									
III. Laydown area reclamation										
Area of Disturbance (acres)										
Average Depth of Stripped Topsoil (ft)	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Surface Grade: Level Ground										
Average Length of Topsoil Haul (ft)	500	500	500	500	500	500	500	500	500	500
A. Ripping Overburden with Dozer										
Ripping Unit Cost per WDEQ Guideline No. 12, App. II (\$/acre)	\$1,152.92	\$1,152.92	\$1,152.92	\$1,152.92	\$1,152.92	\$1,152.92	\$1,152.92	\$1,152.92	\$1,152.92	\$1,152.92
Subtotal Ripping Costs	\$1,153.00	\$1,153.00	\$1,153.00	\$1,153.00	\$1,153.00	\$1,153.00	\$1,153.00	\$1,153.00	\$1,153.00	\$1,153.00
B. Topsoil Application with Scraper										
Volume of Topsoil Removed (cy)	1081	1081	1081	1081	1081	1081	1081	1081	1081	1081
Application Unit Cost per WDEQ Guideline No. 12, App. C (\$/cy)	\$1.09	\$1.09	\$1.09	\$1.09	\$1.09	\$1.09	\$1.09	\$1.09	\$1.09	\$1.09
Subtotal Topsoil Application Costs	\$1,182	\$1,182	\$1,182	\$1,182	\$1,182	\$1,182	\$1,182	\$1,182	\$1,182	\$1,182
C. Disking and Seeding										
Disking/Seeding Unit Cost (\$/acre)	\$685	\$685	\$685	\$685	\$685	\$685	\$685	\$685	\$685	\$685
Subtotal Disking/Seeding Costs	\$685	\$685	\$685	\$685	\$685	\$685	\$685	\$685	\$685	\$685
Subtotal Surface Reclamation Costs per WF laydown area	\$3,020	\$3,020	\$3,020	\$3,020	\$3,020	\$3,020	\$3,020	\$3,020	\$3,020	\$3,020
Total Wellfield Laydown Area Reclamation Costs	\$30,200									
SUBTOTAL SURFACE RECLAMATION COSTS PER WELLFIELD	\$31,054	\$36,833	\$9,604	\$33,697	\$76,215	\$38,568	\$11,626	\$22,591	\$27,388	\$4,193
TOTAL WELLFIELD SURFACE RECLAMATION COSTS	\$291,769									
IV. Satellite Area Reclamation										
Assumptions:										
Area of Disturbance (acres)	1	1	1							
Average Depth of Stripped Topsoil (ft)	1	0.67	0.67							
Surface Grade: Level Ground										
Average Length of Topsoil Haul (ft)	1000	500	500							
A. Ripping Overburden with Dozer										
Ripping Unit Cost per WDEQ Guideline No. 12, App. II (\$/acre)	\$1,152.92	\$1,152.92	\$1,152.92							
Subtotal Ripping Costs	\$1,153.00	\$1,153.00	\$1,153							
B. Topsoil Application with Scraper										
Volume of Topsoil Removed (cy)	1613	1081	1081							
Application Unit Cost per WDEQ Guideline No. 12, App. C (\$/cy)	\$1.31	\$1.31	\$1.31							
Subtotal Topsoil Application Costs	\$2,107	\$1,411	\$1,411							
C. Disking and Seeding										
Disking/Seeding Unit Cost (\$/acre)	\$685	\$685	\$685							
Subtotal Disking/Seeding Costs	\$685	\$685	\$685							
Subtotal Surface Reclamation Costs per Satellite	\$3,945	\$3,249	\$3,249							
Total Satellite Building Area Reclamation Costs	\$10,443									
TOTAL WELLFIELD AND SATELLITE SURFACE RECLAMATION COSTS	\$302,212.00									

Cameco Resources
Smith Ranch - Highland Uranium Project
Surety Estimate

Equipment Removal and Loading		Central Plant	Satellite No. 1	Satellite No. 2	Satellite No. 3	Se Plant Patterned after a Satellite Until Built
I. Removal and Loading Costs						
A. Tankage						
Number of Tanks		26	8	14	18	14
Volume of Tank Construction Material (ft ³)		1028	162	290	397	290
Labor						
Number of Persons		3	3	3	3	3
Ft ³ /Day		25	25	25	25	25
Number of Days		41	6	12	16	12
\$/Day/Person		\$136	\$136	\$136	\$136	\$136
Subtotal Labor Costs		\$16,832	\$2,653	\$4,748	\$6,500	\$4,748
Equipment						
Number of Days		41	6	12	16	12
\$/Day		\$960	\$960	\$960	\$960	\$960
Subtotal Equipment Costs		\$39,475	\$6,221	\$11,136	\$15,245	\$11,136
Subtotal Tankage Removal and Loading Costs		\$56,307	\$8,874	\$15,884	\$21,745	\$15,884
B. PVC/Steel Pipe						
PVC Pipe Footage		5000	1000	4000	4000	4000
Average PVC Pipe Diameter (inches)		3	3	3	3	3
Shredded PVC Pipe Volume Reduction (ft ³ /ft)		0.016	0.016	0.016	0.016	0.016
Volume of Shredded PVC Pipe (ft ³)		80	16	64	64	64
Steel Pipe Footage		0	0	0	0	0
Average Steel Pipe Diameter (inches)		0	0	0	0	0
Volume (ft ³)		0	0	0	0	0
Labor						
Number of Persons		2	2	2	2	2
Ft/Day		300	300	300	300	300
Number of Days		16.67	3	13.33	13.33	13.33
\$/Day/Person		\$136	\$136	\$136	\$136	\$136
Subtotal PVC/Steel Pipe Labor Costs		\$4,548	\$910	\$3,639	\$3,639	\$3,639
Subtotal PVC/Steel Pipe Removal and Loading Costs		\$4,548	\$910	\$3,639	\$3,639	\$3,639
C. Pumps						
Number of Pumps		50	10	14	13	14
Average Volume (ft ³ /pump)		4.93	4.93	4.93	4.93	4.93

Cameco Resources
 Smith Ranch - Highland Uranium Project
 Surety Estimate

Equipment Removal and Loading		Central Plant	Satellite No. 1	Satellite No. 2	Satellite No. 3	Se Plant
	Volume of Pumps (ft ³)	246.5	49.3	69.02	64.09	69.02
	Labor					
	Number of Persons	1	1	1	1	1
	Pumps/Day	2	2	2	2	2
	Number of Days	25	5	7	6.5	7
	\$/Day/Person	\$136	\$136	\$136	\$136	\$136
	Subtotal Labor Costs	\$3,411	\$682	\$955	\$887	\$955
	Subtotal Pump Removal and Loading Costs	\$3,411	\$682	\$955	\$887	\$955
D.	Dryer					
	Dryer Volume (ft ³)	885				
	Labor					
	Number of Persons	5	0	0	0	0
	Ft ³ /Day	175	0	0	0	0
	Number of Days	5	0	0	0	0
	\$/Day/Person	\$136	\$136	\$136	\$136	\$136
	Total Labor Cost	\$3,411	\$0	\$0	\$0	\$0
	Total Dryer Dismantling and Loading Cost	\$3,411	\$0	\$0	\$0	\$0
E.	RO Units					
	Number of RO Units					
	Current	1	0	2	0	0
	Planned	0	0	0	0	1
	Average Volume (ft ³ /RO Unit)	250	250	250	250	250
	Labor					
	Number of Persons	2	2	2	2	2
	Number of Days	0.5	0	1	0	0.5
	\$/Day/Person	\$136.45	\$136.45	\$136.45	\$136.45	\$136.45
	Subtotal RO Unit Removal and Loading Costs	\$136.45	\$0.00	\$272.90	\$0.00	\$136.45
	Subtotal Equipment Removal and Loading Costs per Facility	\$67,813	\$10,466	\$20,751	\$26,271	\$20,615
	Total Equipment Removal and Loading Costs	\$145,916				
II.	Transportation and Disposal Costs (NRC-Licensed Facility)					
A.	Tankage					
	Volume of Tank Construction Material (ft ³)	1028	162	290	397	290
	Volume for Disposal Assuming 10% Void Space (ft ³)	1131	178	319	437	319

Cameco Resources
Smith Ranch - Highland Uranium Project
Surety Estimate

Equipment Removal and Loading		Central Plant	Satellite No. 1	Satellite No. 2	Satellite No. 3	Se Plant
	Transportation and Disposal Unit Cost (\$/ft ³)	\$12.52	\$12.52	\$12.52	\$12.52	\$12.52
	Subtotal Tankage Transportation and Disposal Costs	\$14,158	\$2,228	\$3,993	\$5,471	\$3,993
B.	PVC / Steel Pipe					
	Volume of Shredded PVC Pipe (ft ³)	80	16	64	64	64
	Volume for Disposal Assuming 10% Void Space (ft ³)	88	18	70	70	70
	Volume of Steel Pipe (ft ³)	0	0	0	0	0
	Volume for Disposal Assuming 10% Void Space (ft ³)	0	0	0	0	0
	Transportation and Disposal Unit Cost (\$/ft ³)	\$12.52	\$12.52	\$12.52	\$12.52	\$12.52
	Subtotal PVC Pipe Transportation and Disposal Costs	\$1,102	\$225	\$876	\$876	\$876
C.	Pumps					
	Volume of Pumps (ft ³)	246.5	49.3	69.02	64.09	69.02
	Volume for Disposal Assuming 10% Void Space (ft ³)	271	54	76	70	76
	Transportation and Disposal Unit Cost (\$/ft ³)	\$12.52	\$12.52	\$12.52	\$12.52	\$12.52
	Subtotal Pump Transportation and Disposal Costs	\$3,393	\$676	\$951	\$876	\$951
D.	Dryer					
	Dryer Volume (ft ³)	885	0	0	0	0
	Volume for Disposal Assuming Dryer Remains Intact (ft ³)	885	0	0	0	0
	Transportation and Disposal Unit Cost (\$/ft ³)	\$12.52	\$12.52	\$12.52	\$12.52	\$12.52
	Total Dryer Transportation and Disposal Costs	\$11,079	\$0	\$0	\$0	\$0
E.	RO Units					
	Volume of RO Units (ft ³)	250	0	500	0	250
	Volume for Disposal Assuming 50% Volume Reduction (ft ³)	125	0	250	0	125
	Transportation and Disposal Unit Costs	\$12.52	\$12.52	\$12.52	\$12.52	\$12.52
	Subtotal RO Unit Transportation and Disposal Costs	\$1,565	\$0	\$3,130	\$0	\$1,565
	Subtotal Equipment Transportation and Disposal Costs per Facility	\$31,297	\$3,129	\$8,950	\$7,223	\$7,385
	Total Equipment Transportation and Disposal Costs	\$57,983				
III.	Health and Safety Costs					
	Radiation Safety Equipment					Accounted for on GW REST
	Total Health and Safety Costs					
	SUBTOTAL EQUIPMENT REMOVAL AND DISPOSAL COSTS PER FACILITY	\$99,110	\$13,595	\$29,701	\$33,494	\$27,999
	TOTAL EQUIPMENT REMOVAL AND DISPOSAL COSTS	\$203,899				

Cameco Resources
Smith Ranch - Highland Uranium Project
Surety Estimate

	Central Plant	Dryer Building	Satellite No. 1	Satellite No. 2	Satellite No. 3	Sat. No. 3 Fab Shop	Yellowcake Warehouse	South Warehouse	Suspended Walkway
Building Demolition and Disposal (Highland Uranium Project Buildings)									
I. Decontamination Costs									
A. Wall Decontamination									
Area to be Decontaminated (ft ²)	131,000	0	0	0	0	0	0	0	0
HCl Acid Wash, including labor (\$/ft ²)	\$0.71	\$0.71	\$0.71	\$0.71	\$0.71	\$0.71	\$0.71	\$0.71	\$0.71
Subtotal Wall Decontamination Costs	\$93,515	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
B. Concrete Floor Decontamination									
Area to be Decontaminated (ft ²)	17,820	0	6,000	9,600	9,600	0	0	0	0
HCl Acid Wash, including labor (\$/ft ²)	\$0.44	\$0.44	\$0.44	\$0.44	\$0.44	\$0.44	\$0.44	\$0.44	\$0.44
Subtotal Concrete Floor Decontamination Costs	\$7,836	\$0	\$2,638	\$4,221	\$4,221	\$0	\$0	\$0	\$0
C. Deep Well Injection Costs									
Total Kgals for Injection (1 gal used per ft2)	148.82	0	6	9.6	9.6	0	0	0	0
Deep Well Injection Unit Cost (\$/Kgals)	\$1.19	\$1.19	\$1.19	\$1.19	\$1.19	\$1.19	\$1.19	\$1.19	\$1.19
Subtotal Deep Well Injection Costs	\$177	\$0	\$7	\$11	\$11	\$0	\$0	\$0	\$0
Subtotal Decontamination Costs per Building	\$101,528	\$0	\$2,645	\$4,232	\$4,232	\$0	\$0	\$0	\$0
Total Decontamination Costs	\$116,869								
II. Demolition Costs									
A. Building									
Volume of Building (ft ³)	794,000	30,720	192,000	320,000	320,000	37,560	91,000	333,000	5,600
Demolition Unit Cost per WDEQ Guideline No.12,App.K (\$/ft ³)	\$0.26	\$0.26	\$0.26	\$0.26	\$0.26	\$0.26	\$0.26	\$0.26	\$0.26
Subtotal Building Demolition Costs	\$204,661	\$7,918	\$49,490	\$82,483	\$82,483	\$9,681	\$23,456	\$85,834	\$1,443
B. Concrete Floor									
Area of Concrete Floor (ft ²)	23,760	0	8,000	12,800	12,800	0	6,500	18,000	0
Demolition Unit Cost per WDEQ Guideline No.12,App.K (\$/ft2)	\$5.08	\$5.08	\$5.08	\$5.08	\$5.08	\$5.08	\$5.08	\$5.08	\$5.08
Subtotal Concrete Floor Demolition Costs	\$120,701	\$0	\$40,640	\$65,024	\$65,024	\$0	\$33,020	\$91,440	\$0
C. Concrete Footing									
Length of Concrete Footing (ft)	617	0	358	453	453	0	322	537	0
Demolition Unit Cost per WDEQ Guideline No.12,App.K (\$/ft)	\$18.10	\$18.10	\$18.10	\$18.10	\$18.10	\$18.10	\$18.10	\$18.10	\$18.10
Subtotal Concrete Footing Demolition Costs	\$11,158	\$0	\$6,475	\$8,190	\$8,190	\$0	\$5,836	\$9,712	\$0
Subtotal Demolition Costs per Building	\$336,520	\$7,918	\$96,605	\$155,697	\$155,697	\$9,681	\$62,312	\$186,986	\$1,443
Total Demolition Costs	\$1,361,021								
III. Disposal Costs									
A. Building									
Volume of Building (cy)	29407	1138	7111	11852	11852	1391	3370	12333	207
On-Site									
Percentage (%)	100	100	100	100	100	100	100	100	100
Volume for Disposal (cubic yards)	29407	1138	7111	11852	11852	1391	3370	12333	207
Disposal Unit Cost (\$/cy)	\$7.56	\$7.56	\$7.56	\$7.56	\$7.56	\$7.56	\$7.56	\$7.56	\$7.56
Subtotal On-Site Disposal Costs	\$222,348	\$8,603	\$53,767	\$89,611	\$89,611	\$10,518	\$25,483	\$93,252	\$1,568
B. Concrete Floor									
Area of Concrete Floor (ft ²)	23760	0	8000	12800	12800	0	6500	18000	1186
Average Thickness of Concrete Floor (ft)	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Volume of Concrete Floor (ft ³)	17820	0	6000	9600	9600	0	4875	13500	889.5
Volume of Concrete Floor (cy)	660	0	222	356	356	0	181	500	33
1. On-Site									
Percentage (%)	75	75	75	100	100	100	100	100	100
Volume for Disposal (cy)	495	0	167	356	356	0	181	500	33
Disposal Unit Cost per WDEQ Guideline No.12,App.K (\$/cy)	\$7.56	\$7.56	\$7.56	\$7.56	\$7.56	\$7.56	\$7.56	\$7.56	\$7.56

Cameco Resources
Smith Ranch - Highland Uranium Project
Surety Estimate

	Central Plant	Dryer Building	Satellite No. 1	Satellite No. 2	Satellite No. 3	Sat. No. 3 Fab Shop	Yellowcake Warehouse	South Warehouse	Suspended Walkway
Building Demolition and Disposal (Highland Uranium Project Buildings)									
Subtotal On-Site Disposal Costs	\$3,743	\$0	\$1,260	\$2,688	\$2,688	\$0	\$1,365	\$3,780	\$249
2. NRC-Licensed Facility									
Percentage (%)	25	25	25	0	0	0	0	0	0
Volume for Disposal (ft ³)	4455	0	1500	0	0	0	0	0	0
Transportation and Disposal Unit Cost (\$/ft ³)	\$5.22	\$5.22	\$5.22	\$5.22	\$5.22	\$5.22	\$5.22	\$5.22	\$5.22
Subtotal NRC-Licensed Facility Disposal Costs	\$23,265	\$0	\$7,833	\$0	\$0	\$0	\$0	\$0	\$0
Subtotal Concrete Floor Disposal Costs	\$27,008	\$0	\$9,093	\$2,688	\$2,688	\$0	\$1,365	\$3,780	\$249
C. Concrete Footing									
Length of Concrete Footing (ft)	617	0	358	453	453	0	322	537	124
Average Depth of Concrete Footing (ft)	4	4	4	4	4	4	4	4	4
Average Width of Concrete Footing (ft)	1	1	1	1	1	1	1	1	1
Volume of Concrete Footing (ft ³)	2466	0	1431	1810	1810	0	1290	2147	496
Volume of Concrete Footing (cy)	91	0	53	67	67	0	48	80	18
Disposal Unit Cost per WDEQ Guideline No. 12.App.K (\$/cy)	\$7.56	\$7.56	\$7.56	\$7.56	\$7.56	\$7.56	\$7.56	\$7.56	\$7.56
Subtotal Concrete Footing Disposal Costs	\$691	\$0	\$401	\$507	\$507	\$0	\$361	\$601	\$139
Subtotal Disposal Costs per Building	\$250,047	\$8,603	\$63,261	\$92,806	\$92,806	\$10,518	\$27,209	\$97,633	\$1,956
Total Disposal Costs	\$816,295								
IV. Health and Safety Costs	Accounted for on GW REST								
SUBTOTAL BUILDING DEMOLITION AND DISPOSAL COSTS	\$688,095	\$16,521	\$162,511	\$252,735	\$252,735	\$20,199	\$89,521	\$284,619	\$3,399
TOTAL BUILDING DEMOLITION AND DISPOSAL COSTS	\$2,294,185								

Cameco Resources
Smith Ranch - Highland Uranium Project
Surety Estimate

Building Demolition and Disposal (Highland Uranium Project Buildings)	Changehouse and Lab	Maintenance Bldg	Main Office	Office Trailers
I. Decontamination Costs				
A. Wall Decontamination				
Area to be Decontaminated (ft ²)	0	0	0	0
HCl Acid Wash, including labor (\$/ft ²)	\$0.71	\$0.71	\$0.71	\$0.71
Subtotal Wall Decontamination Costs	\$0	\$0	\$0	\$0
B. Concrete Floor Decontamination				
Area to be Decontaminated (ft ²)	0	0	0	0
HCl Acid Wash, including labor (\$/ft ²)	\$0.44	\$0.44	\$0.44	\$0.44
Subtotal Concrete Floor Decontamination Costs	\$0	\$0	\$0	\$0
C. Deep Well Injection Costs				
Total Kgals for Injection (1 gal used per ft ²)	0	0	0	0
Deep Well Injection Unit Cost (\$/Kgals)	\$1.19	\$1.19	\$1.19	\$1.19
Subtotal Deep Well Injection Costs	\$0	\$0	\$0	\$0
Subtotal Decontamination Costs per Building	\$0	\$0	\$0	\$0
Total Decontamination Costs				
II. Demolition Costs				
A. Building				
Volume of Building (ft ³)	73000	27,000	72,000	20,000
Demolition Unit Cost per WDEQ Guideline No. 12, App. K (\$/ft ³)	\$0.26	\$0.26	\$0.26	\$0.26
Subtotal Building Demolition Costs	\$18,816	\$6,960	\$18,559	\$5,155
B. Concrete Floor				
Area of Concrete Floor (ft ²)	5400	2100	6000	0
Demolition Unit Cost per WDEQ Guideline No. 12, App. K (\$/ft ²)	\$5.08	\$5.08	\$5.08	\$5.08
Subtotal Concrete Floor Demolition Costs	\$27,432	\$10,668	\$30,480	\$0
C. Concrete Footing				
Length of Concrete Footing (ft)	294	183	310	0
Demolition Unit Cost per WDEQ Guideline No. 12, App. K (\$/ft)	\$18.10	\$18.10	\$18.10	\$18.10
Subtotal Concrete Footing Demolition Costs	\$5,319	\$3,317	\$5,607	\$0
Subtotal Demolition Costs per Building	\$51,567	\$20,945	\$54,646	\$5,155
Total Demolition Costs				
III. Disposal Costs				
A. Building				
Volume of Building (cy)	2704	1000	2667	741
On-Site				
Percentage (%)	100	100	100	100
Volume for Disposal (cubic yards)	2704	1000	2667	741
Disposal Unit Cost (\$/cy)	\$7.56	\$7.56	\$7.56	\$7.56
Subtotal On-Site Disposal Costs	\$20,443	\$7,561	\$20,163	\$5,601
B. Concrete Floor				
Area of Concrete Floor (ft ²)	0	2100	6000	0
Average Thickness of Concrete Floor (ft)	0.75	0.75	0.75	0.75
Volume of Concrete Floor (ft ³)	0	1575	4500	0
Volume of Concrete Floor (cy)	0	58	167	0
On-Site				
Percentage (%)	100	100	100	100
Volume for Disposal (cy)	0	58	167	0
Disposal Unit Cost per WDEQ Guideline No. 12, App. K (\$/cy)	\$7.56	\$7.56	\$7.56	\$7.56

Cameco Resources
 Smith Ranch - Highland Uranium Project
 Surety Estimate

		Changehouse and Lab	Maintenance Bldg	Main Office	Office Trailers
Building Demolition and Disposal (Highland Uranium Project Buildings)					
	Subtotal On-Site Disposal Costs	\$0	\$441	\$1,260	\$0
2.	NRC-Licensed Facility				
	Percentage (%)	0	0	0	0
	Volume for Disposal (ft ³)	0	0	0	0
	Transportation and Disposal Unit Cost (\$/ft ³)	\$5.22	\$5.22	\$5.22	\$5.22
	Subtotal NRC-Licensed Facility Disposal Costs	\$0	\$0	\$0	\$0
	Subtotal Concrete Floor Disposal Costs	\$0	\$441	\$1,260	\$0
C.	Concrete Footing				
	Length of Concrete Footing (ft)	0	183	310	0
	Average Depth of Concrete Footing (ft)	4	4	4	4
	Average Width of Concrete Footing (ft)	1	1	1	1
	Volume of Concrete Footing (ft ³)	0	733	1239	0
	Volume of Concrete Footing (cy)	0	27	46	0
	Disposal Unit Cost per WDEQ Guideline No. 12, App. K (\$/cy)	\$7.56	\$7.56	\$7.56	\$7.56
	Subtotal Concrete Footing Disposal Costs	\$0	\$205	\$347	\$0
	Subtotal Disposal Costs per Building	\$20,443	\$8,207	\$21,770	\$5,601
	Total Disposal Costs				
IV.	Health and Safety Costs	Accounted for on GW REST			
	SUBTOTAL BUILDING DEMOLITION AND DISPOSAL COSTS	\$72,010	\$29,152	\$76,416	\$10,756
	TOTAL BUILDING DEMOLITION AND DISPOSAL COSTS				

Cameco Resources
Smith Ranch - Highland Uranium Project
Surety Estimate

Miscellaneous Reclamation						
I. CP/Office Area Reclamation						
Concrete Pad= 0.3 acres						
Total Area = 10 acres						
A. Asphalt						
Area of Asphalt (acres) 3.4						
Demolition Unit Cost per WDEQ Guideline No.12, App.I (\$/acre) \$821.28						
Average Thickness (ft) 0.50						
Hauling Unit Cost per WDEQ Guideline No. 12, App.C (500 ft, 0% grade) \$1,093						
Volume of Asphalt (cy) 2,743						
Disposal Average Cost per WDEQ Guideline No.12, App.K (\$/cy) \$9.03						
Subtotal Concrete Pad Demolition and Disposal Costs \$27,568						
B. Ripping Overburden with Dozer:						
Overburden Surface Area (acres) 10.6						
Ripping Unit Cost per WDEQ Guideline No.12, App.II (\$/acre) \$1,152.92						
Subtotal Ripping Overburden Costs \$12,186						
C. Topsoil Application						
Area of surface disturbance (ft ²) 130680						
Average thickness of topsoil (ft) 0.5						
Average haul distance (ft) 2000						
Surface grade (%) 0%						
Volume of Topsoil (cy) 2,420						
Movement of Topsoil Unit Cost per WDEQ Guideline No.12, App.C (\$/cy) \$1.69						
Subtotal Topsoil Application Costs \$4,094						
D. Discing/Seeding						
Surface Area (acres) 13						
Discing/Seeding Unit Cost (\$/acre) \$771						
Subtotal Discing/Seeding Costs \$10,017						
Total CPP/Office/Yard Area Reclamation \$53,865						
II. Access Road Reclamation (includes culverts)						
CPF/Office Area Sat No. 1 Sat No. 3 Connecting Road Sat No. 2 to Rancher Rd						
A. Assumptions						
Surface grade 5% 0% 0% 0% 0%						
Length of Road (ft) 13200 15840 5280 10560 2640						
Width of Road (ft) 25 30 30 30 10						
Area of road (acres) 7.6 10.9 3.6 7.3 0.6						
B. Ripping and Hauling Asphalt						
Assumptions						
Average Haul Distance (feet) 5500 0 0 0 0.0						
Average Thickness of Asphalt (ft) 0.5 0 0 0 0.0						
Ripping Unit Cost Per WDEQ Guideline No. 12, App I (\$/acre) \$821.28 \$821.28 \$821.28 \$821.28 \$821.28						
Volume of Asphalt (cy) 6111 0 0 0 0						
Hauling Unit Cost per WDEQ Guideline No. 12, App C (\$/cy) \$3.49 \$3.49 \$3.49 \$3.49						
C. Gravel Road Base Removal						
Average haul distance (ft) 0 1000 1000 1000 0						
Gravel Road Base Width (ft) 0 14 14 14 0						
Gravel Road Base Area (acres) 0.00 5.09 1.70 3.39 0						
Average Road Base Depth (ft) 0 0.5 0.5 0.5 0						

Cameco Resources
Smith Ranch - Highland Uranium Project
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Miscellaneous Reclamation					
	Volume of Road Base (cy)	0	4107	1369	2738
	Removal Unit Cost per WDEQ Guideline No.12, App.C (\$/cy)	\$0.00	\$1.31	\$1.31	\$1.31
	Subtotal Gravel Road Base Removal Costs	\$0	\$5,362	\$1,787	\$3,575
D	Ripping Overburden with Dozer				
	Overburden Surface Area (acres)	0.0	10.9	3.6	7.3
	Ripping Unit Cost per WDEQ Guideline No.12, App.II (\$/acre)	\$1,152.92	\$1,152.92	\$1,152.92	\$1,152.92
	Subtotal Ripping Overburden Costs	\$0	\$12,577	\$4,192	\$8,385
E	Topsoil Application				
	Average haul distance (ft)	1500	5000	1500	1500
	Topsoil Surface Area (ft ²)	330000	475200	158400	316800
	Depth of Topsoil (ft)	0.5	0.5	0.5	0.5
	Volume of Topsoil (cy)	6111	8800	2933	5867
	Movement of Topsoil Unit Cost per WDEQ Guideline No.12, App.C (\$/cy)	\$1.31	\$1.31	\$1.31	\$1.31
	Subtotal Topsoil Application Costs	\$7,979	\$11,490	\$3,830	\$7,660
F	Discing/Seeding				
	Surface Area (acres)	7.6	10.9	3.6	7.3
	Discing/Seeding Unit Cost (\$/acre)	\$685	\$685	\$685	\$685
	Subtotal Discing/Seeding Costs	\$5,192	\$7,476	\$2,492	\$4,984
	Multiplier for Projected Additions	0	0	0	0
	Subtotal Reclamation Costs per Access Road	\$13,171	\$36,905	\$12,301	\$24,604
	Total Access Road Reclamation Costs	\$88,733			
III. Trunk Lines			SAT2 to SAT1 WW Pipeline	SAT3 to SAT2 PSR	H-WF Rest. Bypass
	Length of Trench (ft)	24000	22000	2200	
A	Removal and Loading				
	Main Pipeline Removal Unit Cost (\$/ft of trench)	\$0.85	\$0.85	\$0.85	
	Subtotal Trunkline Removal and Loading Costs	\$20,400	\$18,700	\$1,870	
B	Transport and Disposal Costs (NRC-Licensed Facility)				
1.	3" HDPE Trunkline				
	Piping Length (ft)	24000	0	2200	
	Chipped Volume Reduction (ft ³ /ft)	0.022	0.022	0.022	
	Chipped Volume (ft ³)	528	0	48.4	
2.	4" HDPE Trunkline				
	Piping Length (ft)	0	22000	0	
	Chipped Volume Reduction (ft ³ /ft)	0.032	0.032	0.032	
	Chipped Volume (ft ³)	0	704	0	
2.	6" HDPE Trunkline				
	Piping Length (ft)	0	0	0	
	Chipped Volume Reduction (ft ³ /ft)	0.078	0.078	0.078	
	Chipped Volume (ft ³)	0	0	0	
3.	8" HDPE Trunkline				
	Piping Length (ft)	0	0	0	
	Chipped Volume Reduction (ft ³ /ft)	0.15	0.15	0.15	

Cameco Resources
Smith Ranch - Highland Uranium Project
Surety Estimate

Miscellaneous Reclamation				
	Chipped Volume (ft ³)	0	0	0
3	10" HDPE Trunkline			
	Piping Length (ft)	0	0	0
	Chipped Volume Reduction (ft ³ /ft)	0.277	0.277	0.277
	Chipped Volume (ft ³)	0	0	0
4	12" HDPE Trunkline			
	Piping Length (ft)	0	0	0
	Chipped Volume Reduction (ft ³ /ft)	0.293	0.293	0.293
	Chipped Volume (ft ³)	0	0	0
5	14" HDPE Trunkline			
	Piping Length (ft)	0	0	0
	Chipped Volume Reduction (ft ³ /ft)	0.359	0.359	0.359
	Chipped Volume (ft ³)	0	0	0
5	16" HDPE Trunkline			
	Piping Length (ft)	0	0	0
	Chipped Volume Reduction (ft ³ /ft)	0.4	0.4	0.4
	Chipped Volume (ft ³)	0	0	0
6	18" HDPE Trunkline			
	Piping Length (ft)	0	0	0
	Chipped Volume Reduction (ft ³ /ft)	0.47	0.47	0.47
	Chipped Volume (ft ³)	0	0	0
	Total Pipeline Disposal Volume	528	704	48.4
	Volume for Disposal Assuming 10% Void Space (ft ³)	581	774	53
	Transportation and Disposal Unit Cost (NRC-Licensed Facility) (\$/ft ³)	\$12.52	\$12.52	\$12.52
	Subtotal Transport and Disposal Costs	\$7,273	\$9,689	\$663
C	Discing/Seeding			
	Width of Pipeline Trench (ft)	10	10	8
	Area of Pipeline Trench (acres)	5.5	5.1	0.4
	Discing/Seeding Unit Cost (\$/acre)	\$685	\$685	\$685
	Subtotal Discing/Seeding Costs	\$3,776	\$3,461	\$277
	Subtotal Reclamation Costs per Pipeline	\$31,449	\$31,850	\$2,810
	Total Pipeline Reclamation Costs	\$66,109		
IV.	Settling Basin/Storage Ponds Reclamation		E. Radium Pond	W. Radium Pond
A	Soil Sampling and Monitoring			
	Number of Soil Samples	10	10	
	\$/Sample	\$333	\$333	
	Subtotal Soil Sampling and Monitoring Costs	\$3,330	\$3,330	
B	Subsoil Removal and Disposal (Liner removed in 2003)			
	Thickness of subsoil (ft)	1	1	
	Thickness of contaminated subsoil (ft)	0.5	0.5	
	Width of Pond (ft)	85	85	
	Length of Pond (ft)	140	140	
	Surface area of pond (ft ²)	11900	11900	

Cameco Resources
Smith Ranch - Highland Uranium Project
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Miscellaneous Reclamation			
1. Removal and Loading			
Volume of Subsoil (cy)	220	220	
Subsoil Removal and Loading Unit Cost (\$/cy)	\$4.51	\$4.51	
Subtotal Subsoil Removal and Loading Costs	\$993	\$993	
2. Transportation and Disposal			
Volume of Subsoil for Disposal (ft ³)	220	220	
Transportation and Disposal Unit Cost (\$/ft ³)	\$141.00	\$141.00	
Subtotal Subsoil Transportation and Disposal Costs	\$31,072	\$31,072	
Subtotal Subsoil Removal and Disposal Costs	\$32,065	\$32,065	
C. Grade and Contour			
Volume of Embankment Materials (cy)	6400	6400	
Average Grade (%)	0	0	
Distance (ft)	50	50	
Material Moving Cost per WDEQ Guideline No. 12, App E (\$/cy)	0.1298	0.1298	
Subtotal Grade and Contour Costs	830.72	830.72	
D. Topsoil Application			
Area of surface disturbance (ft ²)	99000	99000	
Average thickness of topsoil (ft)	0.5	0.5	
Average haul distance (ft)	1000	1000	
Surface grade (%)	0	3	
Volume of Topsoil (cy)	1,833	1,833	
Movement of Topsoil Unit Cost per WDEQ Guideline No. 12, App C (\$/cy)	\$1.31	\$1.31	
Subtotal Topsoil Application Costs	\$2,394	\$2,394	
D. Discing/Seeding			
Area of surface disturbance (acres)	2.3	2.3	
Discing/Seeding Unit Cost (\$/acre)	\$685	\$685	
Subtotal Discing/Seeding Costs	\$1,556	\$1,556	
Subtotal Reclamation Costs	\$40,176	\$40,176	
Total Settling Basin/Ponds Reclamation Costs	\$80,351		
V. Purge Storage Reservoir Reclamation			
	PSR-1	PSR-2	
A. Soil Sampling and Monitoring			
Number of Soil Samples	10	10	
\$/Sample	\$333	\$333	
Subtotal Soil Sampling and Monitoring Costs	\$3,330	\$3,330	
B. Leachate Collection System Removal Costs			
	\$5,000	\$0	
C. Topsoil/Subsoil Application			
Assumptions:			
Average haul distance (ft)	1000	150	
Surface grade (%)	0	0	
Volume of Topsoil/Subsoil (cy)	83000	74000	
Movement of Topsoil Unit Cost per WDEQ Guideline No. 12, App C (\$/cy)	\$1.31	\$1.31	
Subtotal Topsoil/Subsoil Application Costs per Reservoir	\$108,373	\$96,622	
D. Discing/Seeding			
Surface Area (acres)	6	32	
Discing/Seeding Unit Cost (\$/acre)	\$685	\$685	
Subtotal Discing/Seeding Costs	\$4,112	\$21,929	
Subtotal Reclamation Costs per Reservoir	\$120,815	\$121,881	

Cameco Resources
Smith Ranch - Highland Uranium Project
Surety Estimate

Miscellaneous Reclamation			
Total Purge Storage Reservoir Reclamation Costs		\$242,696	
VI.A Irrigation Maintenance and Monitoring Costs		Irrigator No.1	Irrigator No.2
A.	Irrigation Maintenance and Repair		
	Irrigation Operation Months/Year	0	0
	Cost per Month	\$661	\$667
	Total Number of Years	5	5
	Subtotal Maintenance and Repair Costs	\$0	\$20,010
B.	Irrigation Monitoring and Sampling		
	# of Irrigation Fluid Samples/Year	0	0
	Cost/sample (Energy Labs - Casper Wyoming)	\$333	\$333
	# of Vegetation Samples/Year	5	5
	Cost/sample (Energy Labs - Casper Wyoming)	\$333	\$333
	# of Soil Samples/Year	5	4
	Cost/sample (Energy Labs - Casper Wyoming)	\$333	\$333
	# of Soil Water Samples/Year	0	2
	Cost/sample (Energy Labs - Casper Wyoming)	\$333	\$333
	Total Number of Years	5	5
	Subtotal Sampling Costs	\$58,275	\$78,255
	Subtotal Maintenance and Monitoring Costs per Irrigator	\$58,275	\$98,265
	Total Irrigation Maintenance and Monitoring Costs	\$156,540	
VI.B Irrigation Area Reclamation		Irrigator No. 1A	Irrigator No. 2
A.	Irrigation Equipment Removal Costs	\$2,000	\$2,000
B.	Plowing		
	Assumptions:		
	Plowing Unit Cost (\$/acre)	\$30	\$30
	Irrigation Area (acres)	55	55
	Number of Cultivations	2	2
	Subtotal Plowing Costs	\$3,300	\$3,300
C.	Discing/Seeding		
	Discing/Seeding Unit Cost (\$/acre)	\$685	\$685
	Subtotal Discing/Seeding Costs	\$37,690	\$37,690
	Subtotal Reclamation Costs per Irrigation Area	\$42,990	\$42,990
	Total Irrigation Area Reclamation Costs	\$85,980	
VII. Revegetation of Exxon Reclaimed Lands			
	Assumptions:		
	10% Re seeding potential areas of erosion (\$/acre)	\$685	
	Surface Area (acres)	217	
	Total Exxon Reclaimed Lands Revegetation Costs	\$14,871	
VIII. Potential Mitigation Plan For Irrigator No.1A (Requested by WDEQ-LQD)			
	Assumptions:		
	Harvesting grass for 2 years will further reduce Se levels in vegetation.		
	Harvest grass for 2 years @ \$2000/year	\$4,000	

Cameco Resources
Smith Ranch - Highland Uranium Project
Surety Estimate

Miscellaneous Reclamation		
Analyze Se in grass for 2 years @\$165/sample X 4 samples X 2 yrs.	\$1,320	
Analyze Se in soil for 2 years @\$174/sample X 28 samples X 2 yrs.	\$9,744	
Add 1 ft. of Se free water to 58 acre irrigation area @ cost of \$6000.	\$6,000	
If desired, plow, disk and reseed area with alfalfa @ cost of \$4400.	\$4,400	
Total Potential Mitigation Plan Costs- Call \$30,000	\$30,000	
IX. Potential Mitigation Plan For Irrigator No.2 (Requested by WDEQ-LQD)		
Assumptions:		
Harvesting grass for 2 years will further reduce Se levels in vegetation.		
Harvest grass for 2 years @ \$4000/year.	\$8,000	
Analyze Se in grass for 2 years @\$165/sample X 4 samples X 2 yrs.	\$1,320	
Analyze Se in soil for 2 years @\$174/sample X 32 samples X 2 yrs.	\$11,136	
Add 1 ft. of Se free water to 116 acre irrigation area @ cost of \$12000.	\$12,000	
If desired, plow, disk and reseed area with alfalfa @ cost of \$8800.	\$8,800	
Total Potential Mitigation Plan Costs- Call \$42,000	\$42,000	
X. Potential Mitigation Plan for Shallow Well Casing Leak Investigation		
Assumptions:		
Investigation and potential mitigation plan as of Feb 2009.		
Assume cost of \$50,000.		
Total Preliminary Cost	\$50,000	
XI. Miscellaneous		
A. Fence Removal		
Total Length of Fence (ft)	100,377	
Fence Removal Cost	\$0.55	
Subtotal Fence Removal	\$55,207.35	
B. Drill Water Tank Removal (offer to rancher, dispose of timbers)		
Material (cy)	1.48	
4 hours Cat 924G Loader	\$320.00	
4 hours truck	\$117.12	
4 hours labor (operator)	\$105.25	
Disposal costs	\$11.19	
Subtotal Drill Water Tank Removal	\$553.56	
Total Miscellaneous Structures Reclamation Costs	\$55,760.91	
XII. Infrastructure, Equipment Maintenance, Replacement and Repairs @\$62,000/yr for 6 years		\$372,000.00
Note: 6 years is used to account for reduced maintenance as wellfields are decommissioned		
TOTAL MISCELLANEOUS RECLAMATION COSTS		\$1,338,906
NOTE: Vehicle operation costs are captured in WF REC		

Cameco Resources
Smith Ranch - Highland Uranium Project
Surety Estimate

WELLFIELD ROAD RECLAMATION

Assumptions

1. Gravel road base removed at cost of **\$0.994/cy/1000 ft** (WDEQ Guideline No. 12, App. C, Level Ground, 500 ft haul)
2. Gravel road base: average depth = 0.25 ft, average width = 10 ft
3. Roads scarified prior to topsoil application at cost of **\$59.41/acre** (WDEQ Guideline No. 12, Appendix P)
4. Grading of scarified roads prior to topsoil application at cost of **\$64.77/acre** (WDEQ Guideline No. 12, Appendix G)
5. Topsoil applied at cost of **\$0.994/cy/1000 ft** (WDEQ Guideline No. 12, App. C, Level Ground, 500 ft haul)
6. Stripped topsoil: average depth = 0.67 ft, average width = 25 ft
7. Discing/seeding cost of **\$685/acre** is based on actual contractor costs

Gravel Road Base Removal Costs per 1000 ft of Road

$$\frac{1000 \text{ ft}}{1000 \text{ ft}} \times \frac{0.25 \text{ ft}}{0.25 \text{ ft}} \times \frac{10 \text{ ft}}{10 \text{ ft}} \times \frac{1 \text{ cy}}{27 \text{ ft}^3} \times \frac{\$0.99}{\text{cy}} = \$ 92$$

Scarification Costs per 1000 ft of Road

$$\frac{1000 \text{ ft}}{1000 \text{ ft}} \times \frac{25 \text{ ft}}{25 \text{ ft}} \times \frac{1 \text{ acre}}{4.356 \times 10^4 \text{ ft}^2} \times \frac{\$59.41}{\text{acre}} = \$ 34$$

Grading Costs per 1000 ft of Road

$$\frac{1000 \text{ ft}}{1000 \text{ ft}} \times \frac{25 \text{ ft}}{25 \text{ ft}} \times \frac{1 \text{ acre}}{4.356 \times 10^4 \text{ ft}^2} \times \frac{\$64.77}{\text{acre}} = \$ 37$$

Topsoil Application Costs per 1000 ft of Road

$$\frac{1000 \text{ ft}}{1000 \text{ ft}} \times \frac{0.67 \text{ ft}}{0.67 \text{ ft}} \times \frac{25 \text{ ft}}{25 \text{ ft}} \times \frac{1 \text{ cy}}{27 \text{ ft}^3} \times \frac{\$0.99}{\text{cy}} = \$ 617$$

Discing/Seeding Costs per 1000 ft of Road

$$\frac{1000 \text{ ft}}{1000 \text{ ft}} \times \frac{25 \text{ ft}}{25 \text{ ft}} \times \frac{1 \text{ acre}}{4.356 \times 10^4 \text{ ft}^2} \times \frac{\$685}{\text{acre}} = \$ 393$$

**TOTAL WELLFIELD ROAD RECLAMATION COSTS PER
1000 FT OF ROAD**

= \$ 1,173

**Cameco Resources
Smith Ranch - Highland Uranium Project
Surety Estimate**

Groundwater Sweep (GWS) and Deep Disposal Well (DDW) Unit Costs											
Assumptions:											
1. Wellfield pumps are 5 hp pumping at 32 gpm											
2. Cost of electricity =											\$0.0478 kwh
3. Operator labor costs =											\$210.50 man-day
4. One 60 hp pump at the plant or satellite feeds two DDWs											
5. One 150 hp at each DDW											
6. Each DDW can take 75 gpm											
Wellfield Pumping Electrical Costs per 1000 Gallons											
1000 gal	X	3 hp	X	1 hr	X	0.746 kwh	X	\$ 0.0478			= \$ 0.056
		32 gpm		60 min		hp		kwh			
Wellfield Pumping Labor Costs per 1000 Gallons											
1000 gal	X	1 mon	X	30 days	X	\$210.50	X	2	operators		= \$ 1.922
		6,570,000 gal		1 month		man-day					
Groundwater Sweep Production Rate											
150 gal	X	60 min	X	24 hr	X	365 day	X	1	year	= 6,570,000	gallons
min		hr		day		year		12	month		month
Plant or Satellite to DDW or Irrigator No. 2 Pumping Electrical Costs per 1000 Gallons											
1000 gal	X	60 hp	X	1 hr	X	0.746 kwh	X	\$ 0.0478			= \$ 0.238
		150 gpm		60 min		hp		kwh			
DDW Pumping Costs per 1000 gallons											
1000 gal	X	150 hp	X	1 hr	X	0.746 kwh	X	\$ 0.0478			= \$ 1.189
		75 gpm		60 min		hp		kwh			
TOTAL GWS COSTS PER 1000 GALLONS										= \$ 3.41	

Cameco Resources
Smith Ranch - Highland Uranium Project
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Groundwater Reverse Osmosis (RO) and Bioremediation Unit Costs															
Assumptions:															
1. Cost of electricity =									\$0.0478	KW hr					
2. Operator labor costs =									\$210.50	day					
3. RO System Horsepower:															
	downhole pump		3	hp		10	gpm								
	RO Unit Pump		60	hp											
	Permeate/Injection pump		60	hp											
	Waste pump		15	hp											
	TOTAL:		138	hp											
4. Chemical costs:															
	Cheese Whey =								\$1.08	gal					
	Methanol =								\$2.43	gal					
	Antiscalant =								\$16.19	gal					
5. Mix Rates															
	Cheese Whey		0.00005	gal/gal											
	Methanol		0.00025	gal/gal											
	Antiscalant		0.00000833	gal/gal											
6. Based on 36 pumps at 1,000 gpm															
7. RO Maintenance Costs									\$0.05	per Kgal					
Wellfield Pumping Electrical Costs per 1000 Gallons															
1000 gal	X	3	hp	X	1	hr	X	0.746	kw	X	\$ 0.0478	= \$	0.056	per Kgal	
		32	gpm		60	min		hp	kw		kw				
Reverse Osmosis/Bioremediation Electrical Costs per 1000 Gallons															
1000 gal	X	138	hp	X	1	hr	X	0.746	kw	X	\$ 0.0478	= \$	0.082	per Kgal	
		1000	gpm		60	min		hp	kw		kw				
Reverse Osmosis/Bioremediation Labor Costs per 1000 Gallons															
1000 gal	X	1	min	X	1	man-day	X	\$210.50	man-day	X	2	operators	= \$	0.877	per Kgal
		1,000	gal		480	min		man-day	man-day						
Treatment chemical costs per 1000 Gallons															
Antiscalant:															
1000 gal	X	0.000008330	gal antiscalant	X	\$16.19	gal antiscalant						= \$	0.135	per Kgal	
		1	gal		gal antiscalant										
Methanol															
1000 gal	X	0.00025	gal methanol	X	\$2.43	gal methanol						= \$	0.608	per Kgal	
		1	gal		gal methanol										
Cheese Whey															
1000 gal	X	0.00005	gal cheese whey	X	\$1.08	gal cheese whey						= \$	0.054	per Kgal	
		1	gal		gal cheese whey										
Reverse Osmosis Production Rate															
400 gal	X	60	min	X	24	hr	X	365	day	X	1	year	=	17,520,000	gallons
		hr			day	day		year	year		12	month		month	
Bioremediation Production Rate (information only, not used)															
1050 gal	X	60	min	X	24	hr	X	365	day	X	1	year	=	45,990,000	gallons
		hr			day	day		year	year		12	month		month	
TOTAL RO COSTS PER 1000 GALLONS										= \$	1.20				
TOTAL BIOREMEDIATION COSTS PER 1000 GALLONS										= \$	1.68				

Cameco Resources
 Smith Ranch - Highland Uranium Project
 Surety Estimate

FIVE YEAR MECHANICAL INTEGRITY TESTS (MIT)					
Assumptions:					
1	Pulling Unit for 8 hr/day				
2	MIT Unit for 8 hr/day				
3	Labor for operation of pulling unit requires 2 workers				
4	Labor for operation of MIT Unit requires 1 worker				
MIT Costs per Well					
Equipment and Labor:					
	Pulling Unit				
	8 hours	X	\$ 110	per hour	= \$ 880.00
	MIT Unit				
	8 hours	X	\$ 110	per hour	= \$ 880.00
TOTAL MIT COST PER DAY					= \$ 1760.00
	Wells Completed		6	per day	
MIT COSTS PER WELL					= \$ 293.33
MIT COSTS PER DEEP DISPOSAL WELL (2008 Cost)					= \$ 5907.53

**Cameco Resources
Smith Ranch - Highland Uranium Project
Surety Estimate**

WELL ABANDONMENT Unit Costs						
Assumptions:						
1 Use backhoe for 0.25 hr/well to dig, cut off, and cap well.						
2 Drill rig used 2.5 hrs to plug well.						
3 Labor for installing chips, etc. will require 2 workers at 2.5 hrs per well						
4 Contouring and seeding included with miscellaneous reclamation						
						Cost per ft (based on 700 ft wells)
Well Abandonment Costs						
Cat 416 Backhoe	0.25 hours	X \$ 80.00	per hour	=	\$20.00	\$0.0286
Drill rig	2.5 hours	X \$ 148.84	per hour	=	\$372.10	\$0.5316
Labor	2.5 hours	X \$ 17.06	per hour	=	\$42.64	\$0.1218
Well Cap	1 each	X \$ 1.27	each	=	\$1.27	\$0.0018
Materials per foot of well						
Cement	0.12 sacks/ft	X \$ 5.94	per sack	=		\$0.7128
Plug Gel	0.0067 sacks/ft	X \$ 7.30	per sack	=		\$0.0489
Total Estimated Cost per Foot:						\$1.45

**Cameco Resources
Smith Ranch - Highland Uranium Project
Surety Estimate**

REMOVAL OF CONTAMINATED SOIL AROUND WELLS Unit Cost				
Assumptions:				
1 Use backhoe for 0.25 hr/well to dig				
2 Radiation Technician measures extent of contamination for 0.25 hr/well				
Assessment/Removal Costs				Cost per well
Cat 416 Backhoe	0.25 hours	X \$	80.00 per hour	\$20.00
Radiation Technician	0.25 hours	X \$	24.60 per hour	\$6.15
Laborer	2.5 hours	X \$	17.06	\$42.64
Disposal and Transportation Costs				
Contaminated Soil per Well			0.370 cy per well	
Disposal and Transportation		\$	141.00 per cy	\$52.17
Total Estimated Cost per Well:				\$120.96

**Cameco Resources
Smith Ranch - Highland Uranium Project
Surety Estimate**

DELINEATION HOLE ABANDONMENT Unit Costs						
Assumptions:						
1 Drill rig used 2.5 hrs to plug well.						
2 Labor for installing chips, etc. will require 2 workers at 0.5 hrs per well						
Hole Abandonment Costs						Cost per ft (based on 700 ft wells)
Drill rig	2.5 hours	X \$	148.84	per hour	=	\$372.10
						\$0.5316
Well Cap	1 each	X \$	1.27	each	=	\$1.27
						\$0.0018
Labor	2.5 hours	X \$	17.06	per hour	=	42.64
						\$0.1218
Materials per foot of						
Cement	0.12 lbs/ft	X \$	5.940	per pound	=	\$0.7128
Plug Gel	0.0067 sacks/ft	X \$	7.30	per sack	=	\$0.0489
Site Grading and Seeding:			\$34.10			per site
Total Estimated Cost per Foot:						\$1.42

Cameco Resources
Smith Ranch - Highland Uranium Project
Surety Estimate

Wellfield Building/Clay Liner Removal			
Cost per Well Head Cover			
Radiation Tech =	19	per hour	
Operator =	20	per hour	
Total Wellhead Covers =	0.00		
HCl 35% Cost =	\$ 0.160	per pound	
Acid Usage Rate =	4.1	pounds per wellhead cover	
Acid Unit Cost =	\$ 0.66	per wellhead cover	
Total Labor Rate =	\$ 45.72	per hour	
Cleaning Rate	10	wellheads per hour	
Survey / Decon.	\$ 4.57	per wellhead cover	
Cost per Header House			
Rad Technician =	19	per hour	
Operator =	20	per hour	
Number of Operators =	2		
HCl 35% Cost =	\$ 0.160	per pound	
Acid Usage Rate =	20	pounds per header house	
Acid Unit Cost =	\$ 3.20	per header house	
Total Labor Rate =	\$ 368.36	per hour	
Cleaning Rate	1	header house per day	
Survey / Decon.	\$ 368.36	per header house	
Clay Liner/Subsoil Removal Cost			
Operator =	20	per hour	
Trackhoe =	\$ 80.00	per hour	
Loader =	\$ 80.00	per hour	
Loader Size =	20	cubic yards	
Disposal Rate =	40	yards/hour	
Total Removal	\$ 4.51	per cubic yard	

Cameco Resources
 Smith Ranch - Highland Uranium Project
 Surety Estimate

ACID WASH								
Assumptions:								
10% wash solution is used								
0.25 gallon of acid wash is used per sq ft. to clean walls.								
1 gallon of acid wash is used per sq ft. to clean floors.								
Using the CPP square footages the assumption is as follows								
Acid Wash (Walls)								
Labor	2	Men						
Rate	\$17.06	hr.						
Time	20	8hr. Days						
Manlift Rental	\$8,000.00	Month						
CPP Wall Area	26710	square feet						
Labor and manlift	\$0.50	per square foot						
Acid	\$0.16	pound						
Consumables	\$0.05	per square foot						
Total	\$0.71	per square foot						
Acid Wash (Floors)								
Labor	2	Workers						
Rate	\$17.06	hr.						
Time	15	8hr. Days						
CPP Floor Area	17820	square feet						
Labor	\$0.23	per square foot						
Acid	\$0.16	pound						
Consumables	\$0.05	per square foot						
Total	\$0.44	per square foot						

Cameco Resources
 Smith Ranch - Highland Uranium Cameco Resources
 Smith Ranch - Highland Uranium Project
 Surety Estimate

WELLFIELD PIPING REMOVAL Unit Costs						
Assumptions:						
1. Trenching with backhoe at 1500 ft/day						
2. Pipeline extraction and backfilling with backhoe at 1500 ft/day						
4. Backhoe operation requires 1 worker						
5. Pipeline extraction requires 2 workers						
6. Operating schedule: 8 hrs/day, 5 days/week						
Equipment						
Backhoe						
	\$ 80		8 hours		1 day	
	hour	X	day		1500 ft	=\$ 0.43 per foot
Labor						
Backhoe Operation						
	\$ 26.31		8 man hrs		1 days	
	man hr	X	1 day	X	1500 ft	=\$ 0.14 per foot
Pipeline Extraction						
	\$ 26.31		16 man hrs		1 day	
	man hr	X	1 day	X	1500 ft	=\$ 0.28 per foot
MAIN PIPELINE REMOVAL COST					=\$ 0.850	per foot

**Cameco Resources
Smith Ranch - Highland Uranium Project
Surety Estimate**

Mine Unit Data												
	Mine Unit-A	Mine Unit-B	Mine Unit-C	Mine Unit-C19N	Mine Unit-C Haul Drifts	Mine Unit-D	Mine Unit- D Est	Mine Unit E	Mine Unit F	Mine Unit H	Mine Unit I	Mine Unit J
Total number of production wells	2	141	190	0	0	43	30	119	459	154	125	118
Total number of injection wells	2	224	343	0	0	74	67	212	873	316	236	240
Total number of monitor wells	2	97	97	0	0	38	20	86	149	81	39	57
Flare Factor	2.94	2.94	2	2	0	2.5	2.5	2.6	2	2.4	2.5	2.5
Wellfield Area (ft ²)	151,900	690,900	1,067,056	325,000	0	326,750	201,509	971,941	3,431,990	1,222,583	1,146,959	1,148,680
Wellfield Area (acres)	3.49	15.86	24.50	7.46	0.00	7.50	4.63	22.31	78.79	28.07	26.33	26.37
Affected Ore Zone Area (ft ²)	151,900	690,900	1,067,056	325,000	0	326,750	201,509	971,941	3,431,990	1,222,583	1,146,959	1,148,680
Avg. Completed Thickness	15.0	15.0	16.0	15.0	0.0	17.0	17.0	16.0	16.0	16.0	20.0	15.0
Porosity	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
Affected Volume (ft ³)	6,698,790	30,468,690	34,145,792	9,750,000	0	13,886,875	8,564,133	40,432,746	109,823,680	46,947,187	57,347,950	43,075,500
Kgallons per Pore Volume	13.529	61.535	68.961	19.691	0	28.046	17.296	81.658	221.800	94.815	115.820	86.995
Number of Patterns in Unit(s)												
Current	2	141	190	0	0	43	30	119	459	154	125	118
Estimated next report	0	0	0	0	0	0	0	0	0	0	0	0
Total Estimated	2	141	190	0	0	43	30	119	459	154	125	118
Number of Wells in Unit(s)												
Production Wells				Wells included in MU-C								
Current	2	141	190	0	0	43	30	119	459	154	125	118
Estimated next report	0	0	0	0	0	0	0	0	0	0	0	0
Total Estimated	2	141	190	0	0	43	30	119	459	154	125	118
Injection Wells												
Current	2	224	343	0	0	74	67	212	873	316	236	240
Estimated next report	0	0	0	0	0	0	0	0	0	0	0	0
Total Estimated	2	224	343	0	0	74	67	212	873	316	236	240
Monitor and Restoration Wells												
Current	2	97	97	0	0	38	20	86	149	81	39	57
Estimated next report	0	0	0	0	0	0	0	0	0	0	0	0
Total Estimated	2	97	97	0	0	38	20	86	149	81	39	57
Number of Wells per Wellfield	6	462	630	0	0	155	117	417	1481	551	400	415
Total Number of Wells	4634											
Average Well Depth (ft)	500	450	550	550	550	600	600	550	650	500	650	540
Average Diameter of Casing (inches)	5	5	5	5	5	5	5	5	5	5	5	5
Delineation Holes Estimated Next Report Period	0	0	0	0	0	0	0	0	0	0	0	0
Length of Fencing (ft)	0	0	18694	0	0	14060	0	18426	29540	9680	0	9977
Number of Deep Disposal Wells	3											

**Cameco Resources
Smith Ranch - Highland Uranium Project
Surety Estimate**

Electrical Costs			
Power cost	2008 Actual		
	\$0.0478	kwHr	
Kilowatt to Horsepower	0.746	Kw/HP	
Horsepower per gallon per minute	0.167	HP/gpm	
Building Electricity Costs, Highest Winter Season	\$0.013	per cubic foot	
Labor Rates			
Latest Available, Wyoming, US Bureau of Labor/Statistics May 2007			
		Inc 30% benefits (i.e. overhead)	
Environmental Manager/RSO	\$33.47	\$43.51	hour
Restoration Manager/Hydrologist	\$26.27	\$34.15	hour
Operator	\$20.24	\$26.31	hour
Laborer	\$13.12	\$17.06	hour
Engineer	\$29.12	\$37.86	hour
Radiation/Environmental Engineering Technician	\$18.92	\$24.60	hour
2,080 working hours in a month	173	hours per month	
Chemical Costs			
	2009 Actual (includes profit/overhead)		
Antiscalant for RO	\$16.19	gal	
Cheese Whey	\$1.08	gal	
Methanol	\$2.43	gal	
Cement	\$5.94	sack	
Bentonite Tubes	\$2.90	tube	
Plug Gel	\$7.30	sack	
Well Cap	\$1.27	each	
Hydrochloric Acid	\$0.16	pound	
Analytical Costs			
	2009 Actual (includes profit/overhead)		
Guideline 8 (contract lab adjusted for current contract cost)	\$333.00	analysis	
6 parameter (contract lab) Est Rate (CPI)	\$70.00	analysis	
Other (radon, bio, etc.) Est Rate (CPI)	\$912.00	month	

CPI Escalators (CPI-U, U.S. /West)	
Not used, it went down	
Dec 2007 CPI, (urban, West)	209,545
Dec 2008 CPI (urban, West)	208,088
Escalation Factor	-0.700

Capital Program Costs	
Brine Reduction Technology	\$1,000,000
DDW x 2 Workovers (includes piping and powerline installation)	\$2,000,000
Engineering	\$500,000
Selenium Plant	\$2,750,000
Deep Disposal Well	\$1,900,000
RO Unit	\$500,000
Disposal Well Transmission Lines	\$500,000
*NRC License/Inspection Fees (1/2 of 158606/yr)	\$793,030
TOTAL Capital Costs	\$9,943,030

*Fees are split between Highland Uranium Project and Smith Ranch

Note: profit as used in this spreadsheet, indicates profit to the third party.

Cameco Resources
Smith Ranch - Highland Uranium Project
Surety Estimate

Equipment Costs (includes profit and overhead)

<u>Equipment</u>	<u>Base Rental Rate (\$/hr)</u>	<u>Labor Costs (\$/hr)</u>	<u>Repair Reserve Costs (\$/hr)</u>	<u>Fuel Costs (\$/hr)</u>	<u>Mob & Demob (\$/hr)</u>	<u>Total (\$/hr)</u>
Cat 924G Loader	\$80.00	N/A	inc	inc	inc.	\$80.00
Cat 416 Backhoe	\$80.00	N/A	inc	inc	inc.	\$80.00
Shredder	\$12.00	N/A	inc	inc	inc	\$12.00
Cat D8N Bulldozer	\$110.00	N/A	inc	inc	inc.	\$110.00
Pulling Unit with Operator	\$110.00	inc	inc	inc	inc	\$110.00
MIT Unit with Operator	\$110.00	inc	inc	inc	inc	\$110.00
Drill Rig (workover, repair, P&A) with Operator	\$148.84	inc	inc	inc	inc	\$148.84
Manlift Rental	\$50.00	inc	inc	inc	inc	\$50.00
Crane Rental	\$110.00	inc	inc	inc	inc	\$110.00

Basis:
Cat 924G, 416 rental rates from Russell Construction (Jan 09); drill rig based on current contracts
Diesel estimated \$2.68/gallon
Pulling Unit cost based on Pronghorn Pump and Repair (Jan 09)

Waste Disposal Costs (includes profit/overhead)

<u>Waste Form</u>	<u>Fee</u>	<u>Density Correction Factor (Tons Yd3)</u>	<u>Fee per Cubic Yrd</u>	<u>Transport Cost</u>	<u>Total Transportation and Disposal Cost</u>
Soil, Concrete, Bulk Byproduct Material	\$185.19	per Ton	0.54	\$100.00	\$41.00 per Yd3
Unpackaged Bulk Byproduct Material (e.g., pipe)	\$707.15	per Ton	0.42	\$297.00	\$41.00 per Yd3
Solid Waste (landfill)	\$0.00827	per Lb		Incl.	per Lb \$0.00827
Solid Waste (landfill)	\$133.75	per Load		Incl.	per Load \$133.75
Void Factor (for disposal)	1.25				

**Cameco Resources
Smith Ranch - Highland Uranium Project
Surety Estimate**

Guideline No. 12 Unit Costs (includes profit)				
Paragraph 12. Miscellaneous (Administrative, Overhead and Contingency)				
Extrapolated percentage based on numbers provided			15	percent
App K. Cost Estimates for Demolition and Removal of Railroad Spurs and Facilities Buildings				
Task	Cost per unit	Regional Cost Adjustment	Overhead (10%)	Adjusted Cost per Unit
Mixture of Types	\$0.24 fl3	0.974	\$0.02	\$0.258 fl3
Explosive Demolition, Concrete or Steel	0.22 fl3	0.974	\$0.02	\$0.236 fl3
Disposal (Average)	8.41 cy	0.974	\$0.84	\$9.032 cy
City Landfill Dump Charges	\$95.00 ton	0.974	\$9.50	\$102.030 ton
Concrete Footings and Foundations		0.974		fl2
6" Thick with Rebar	4.73 fl2	0.974	\$0.47	\$5.080 fl2
Footings - 2' Thick, 3' Wide	16.85 lin. ft.	0.974	\$1.69	\$18.097 lin. ft.
Concrete Disposal On-Site	7.04 cy	0.974	\$0.70	\$7.561 cy
App C. Calculations for Moving Materials with a Caterpillar 637G Push-Pull Scraper Fleet				
		Operating Cost per bank (in situ) cubic yards		
One-Way Distance 500 feet, 0% grade		\$0.994	\$0.10	\$1.093 bey
One-Way Distance 1,000 feet, 0% grade		\$1.187	\$0.12	\$1.306 bey
One-Way Distance 2,000 feet, 0% grade		\$1.538	\$0.15	\$1.692 bey
One-Way Distance 6,500 feet, 5% grade		\$3.170	\$0.32	\$3.487 bey
App E. Calculations for Moving Material with a Caterpillar D9R Dozer				
		Operating Cost per linear cubic yard		
Distance 50 feet		\$0.1180	\$0.01	\$0.130 ley
App H. Cost Estimates for Handling Wire Fencing and Electrical Power Lines				
Fencing Removal		\$0.5000	\$0.05	\$0.55 linear foot
App I. Cost Estimate for Ripping Asphalt Using a Caterpillar D9R Dozer				
		Operating Cost		
		\$746.62	\$74.66	\$821.28 per acre
App 11. Cost Estimate for Ripping Overburden Using a Caterpillar D10R Dozer				
		Operating Costs		
0.27 acre/hour		\$282.92	\$28.30	\$311.29 per hour \$1,152.92 per acre
App L. Abandonment and Sealing of Cased Drill Holes and Monitor Wells				
Site Grading		\$30.00	\$3.00	\$33.00 per site
Seeding		\$1.00	\$0.10	\$1.10 per site

Seeding Unit Costs	
Discing / Seeding/Topsoil Costs	2008 Actual
Seed cost	\$85.28 per acre
Hay Mulch Crimped and Tackifier Soil Amendment	\$600 per acre
Seed and Mulch	\$685 per acre
Depth of Topsoil	0.5 feet