

MEMORANDUM

Date: August 11, 2009
To: Water Right File 63-10034 Simplot
From: Michele Edl
Re: DEQ land use app

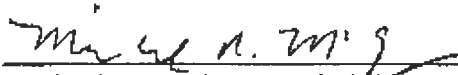
I queried the IDEQ webpage for the wastewater reuse permit associated with JR Simplot's Caldwell plant. I found the attached permit. It was issued in 2005 and is valid until 9/16/2010. This land application of wastewater overlaps the place-of-use for the water right 63-10034. I had hoped to use this permit's maps and drawings to make some determination of the process water discharge points. I assumed that some of the backbone of the system might not have changed.

The POD confirmation that I was seeking is well disguised by the current system configuration. I can only assign two process water discharge points to this right. As for the place-of-use, according to this contemporary DEQ permit, current wastewater irrigation exceeds the acreage that IDWR has associated with water right 63-10034.

The LA permit requires regular measurements of flow and so I have also requested copies of those records from DEQ personnel hoping to home in on an industrial use rate. I do not have any documentation supporting a rate for industrial beneficial use. I only know that it is probably less than the irrigation rate.

**INDUSTRIAL
WASTEWATER-LAND APPLICATION PERMIT
J. R. SIMPLOT COMPANY
LA-000008-03**

**J. R. Simplot Company, P. O. Box 1059, Caldwell, Idaho 83606 IS
HEREBY AUTHORIZED TO CONSTRUCT, INSTALL, AND
OPERATE A WASTEWATER-LAND APPLICATION TREATMENT
SYSTEM IN ACCORDANCE WITH THE WASTEWATER-LAND
APPLICATION RULES (IDAPA 58.01.17), THE WATER QUALITY
STANDARDS AND WASTEWATER TREATMENT REQUIREMENTS
(IDAPA 58.01.02), THE GROUND WATER QUALITY RULE (IDAPA
58.01.11), AND ACCOMPANYING PERMIT APPENDICES AND
REFERENCE DOCUMENTS. THE LAND APPLICATION SITE IS
LOCATED IN CANYON COUNTY, APPROXIMATELY 2 MILES
WEST OF THE CITY OF CALDWELL ON HIGHWAY 19. THIS
PERMIT IS EFFECTIVE FROM THE DATE OF SIGNATURE AND
EXPIRES ON September 16, 2010.**



Michael R. McGown, Administrator
Boise Regional Office

Date: 9/20/05

**DEPARTMENT OF ENVIRONMENTAL QUALITY
1445 North Orchard
Boise, Idaho 83706-2239
(208) 373-0550**

POSTING ON SITE RECOMMENDED

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2. Waste Solids Management Plan
3. Buffer Zone Plan
4. Sampling and Analysis Plan

The Sections, Appendices, and Reference Documents listed on this page are all elements of Wastewater-Land Application Permit LA-000008-03 and are enforceable as such. Other plans required in Section E. and F. of this permit (Plan of Operation and Runoff Management Plan) require DEQ review and approval, but are not enforceable as part of this permit. This permit does not relieve the J. R. Simplot Company, hereafter referred to as the permittee, from responsibility for compliance with other applicable federal, state or local laws, rules, standards or ordinances.

C. Abbreviations, Definitions

Ac-in	Acre-inch. The volume of water or wastewater to cover 1 acre of land to a depth of 1 inch. Equal to 27,154 gallons.
BMP or BMPs	Best Management Practices
COD	Chemical Oxygen Demand
DEQ or the Department	Idaho Department of Environmental Quality
Director	Director of the Idaho Department of Environmental Quality, or the Directors Designee, i.e. Regional Administrator
ET	Evapotranspiration – Loss of water from the soil and vegetation by evaporation and by plant uptake (transpiration)
Fiber Crops	Crops grown for fodder or seed.
Food Crops	Crops grown for human consumption, including, but not limited to fruits and vegetables.
GS	Growing Season – Typically April 1 through October 31 (214 days). May vary depending site specific climate and crops.
GW	Ground Water
GWQR	IDAPA 58.01.11 “Ground Water Quality Rule”
Handbook or Guidelines	“Guidance for Land Application of Municipal and Industrial Wastewater”, current revision.
HLRgs	Growing Season Hydraulic Loading Rate. Includes any combination of wastewater and supplemental irrigation water applied to land application hydraulic management units during the growing season. The HLRgs limit is specified in Section F. Permit Limits and Conditions.
HLRngs	Non-Growing Season Hydraulic Loading Rate. Includes any combination of wastewater and supplemental irrigation water applied to each hydraulic management unit during the non-growing season. The HLRngs limit is specified in Section F. Permit Limits and Conditions.
HMU	Hydraulic Management Unit (Serial Number designation is MU)
IWR	Irrigation Water Requirement – Any combination of wastewater and supplemental irrigation water applied at rates commensurate to the moisture requirements of the crop, and calculated monthly during the growing season (GS). Calculation methodology for the IWR can be found at the following website: http://www.kimberly.uidaho.edu/water/appndxet/index.shtml. The equation used to calculate the IWR at this website is: $IWR = (CU - P_e) / E_i$ CU is the monthly consumptive use for a given crop in a given climatic area. CU is synonymous with crop evapotranspiration P_e is the effective precipitation. CU minus P_e is synonymous with the net irrigation requirement (IR) E_i is the irrigation system efficiency. To obtain the gross irrigation water requirement (IWR), divide the IR by the irrigation system efficiency.
IDAPA	Idaho Administrative Procedures Act.
LG	Lagoon
Lb/ac-day	Pounds (of constituent) per acre per day
MG	Million Gallons (1 MG = 36.827 acre-inches)
MGA	Million Gallons Annually (per WLAP Reporting Year)
NGS	Non-Growing Season – typically November 1 through March 31 (151 days). May vary depending site-specific climate and the crop(s) grown.

C. Abbreviations, Definitions

NVDS	Non-Volatile Dissolved Solids (equal to Total Dissolved Solids less Volatile Dissolved Solids)
O&M manual	Operation and Maintenance Manual, also referred to as the Plan of Operation
SAR	Sodium Absorption Ratio
SI	Supplemental Irrigation water applied to the land application treatment site.
Soil AWC	Soil Available Water Holding Capacity - the water storage capability of a soil to a depth at which plant roots will utilize (typically 60 inches or root limiting layer)
SMU	Soil Monitoring Unit (Serial Number designation is SU)
SW	Surface Water
TDS	Total Dissolved Solids or Total Filterable Residue
TDIS	Total Dissolved Inorganic Solids – The summation of chemical concentration results in mg/L for the following common ions: calcium, magnesium, potassium, sodium, chloride, sulfate, and 0.6 times alkalinity (alkalinity expressed as calcium carbonate). Nitrate, Silica and fluoride shall be included if present in significant quantities (i.e. > 5 mg/L each).
TMDL	Total Maximum Daily Load – The sum of the individual waste-load allocations (WLA's) for point sources, Load Allocations (LA's) for non-point sources, and natural background. Such load shall be established at a level necessary to implement the applicable water quality standards with seasonal variations and a margin of safety that takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality. Definition from IDAPA 58.01.02 <i>Water Quality Standards and Wastewater Treatment Requirements</i>
Typical Crop Uptake	Typical Crop Uptake is defined as the median constituent crop uptake from the three (3) most recent years the crop has been grown. Typical Crop Uptake is determined for each hydraulic management unit. For new crops having less than three years of on-site crop uptake data, regional crop yield data and typical nutrient content values, or other values approved by DEQ may be used.
USGS	United States Geological Survey
WLAP	Wastewater Land Application Permit (or Program)
WLAP Reporting Year	The reporting year begins with the non-growing season and extends through the growing season of the following year, November 1 to October 31. For example, the 2000 Reporting Year was November 1, 1999 through October 31, 2000.
WW	Wastewater applied to the land application treatment site

D. Facility Information

Legal Name of Permittee	J. R. Simplot Company
Type of Wastewater	Wastewater generated in the following areas: handling and processing raw potatoes (silt wastewater); wet processing, potato frying operations, and the ethanol production plant.
Method of Treatment	Silt wastewater – Delta Stak™ clarifier and slow rate land treatment Other wastewater – Dissolved air flotation, anaerobic digester, and slow rate land treatment
Type of Facility	Private
Facility Location	Located approximately 2 miles west of Caldwell
Legal Location	Township 4 North, Range 3 West, part of sections 7, 17, 18, 19, 20, 29, 30 and 31 Township 4 North, Range 4 West, part of sections 12, 13, 14, 23 and 24
County	Canyon
USGS Quad	Caldwell
Soils on Site	Loam, silt loam, and fine sandy loam
Depth to Ground Water	5 to 10 feet
Beneficial Uses of Ground Water	Agriculture, industrial, domestic, aquaculture
Nearest Surface Water	Boise River, 200 feet. On-site canals and ditches include the Roedel Ditch, Riverside Canal, and the South Drain
Beneficial Uses of Surface Water	Agriculture, industrial, domestic, recreation, and aquatic life
Responsible Official	Reggie Pederson, Unit Director
Mailing Address	P. O. Box 1059 Caldwell, Idaho 83606
Phone / Fax	(208) 454-4360 / 208-454-4389
Facility Contact	Lance Carter, Land Application Manager (208) 454-4360 office (208) 250-6039 cell
Facility Consultant(s)	HDR Engineering, Inc.
Mailing Address	418 S. 9 th Street, Suite 301 Boise, Idaho 83702
Phone / Fax	(208) 342-3779 / (208) 342-4334

E. Compliance Schedule for Required Activities

- 1) The Permittee shall complete activities in the following table on or before the Completion Date unless the Department approves an alternative date in writing. Where the required submittal is a work plan or schedule for improvements to the wastewater land application system, the Department will respond with any comments, questions or requests for further information within thirty (30) days of receipt of the submittal. If the Department requests further information, the Permittee shall respond within thirty (30) days of the Department's request. This review process will repeat until necessary modifications to the work plan or schedule are completed by the Permittee and approved by the Department. If the Permittee fails to submit an approveable document, as determined by the Department, within one-hundred and twenty (120) days past the original submittal due date, the Permittee may be deemed to be in violation of this permit.
- 2) If any event occurs that may delay the performance of any requirement specified in this permit, the Permittee shall notify the Department in writing within ten (10) days of the date the Permittee knew, or should reasonably have known, of the event. The notice under this paragraph shall describe the anticipated consequences of the delay, measures taken by the Permittee to prevent or minimize the delay, and a schedule by which those measures will be implemented. The Permittee shall utilize all reasonable measures to avoid or minimize delays. If the Department determines that the delay, or anticipated delay, in achievement of any requirement of the permit arises from causes beyond the control of the Permittee (a *force majeure* event), the time for performance of the requirement that is affected by the *force majeure* event will be extended by the Department for such time as the Department determines necessary to complete that requirement. The Department may pursue appropriate enforcement with respect to any delay that does not arise from a *force majeure* event.

Compliance Activity Number Completion Date	Compliance Activity Description
CA-008-01 O&M Manual 6 months after permit is issued	A revised Plan of Operation (Operation and Maintenance Manual or O&M Manual) for the wastewater land application facilities, incorporating the requirements of this permit, shall be submitted to DEQ for review and approval. The O&M manual shall be designed for use as an operator guide for actual day-to-day operations to meet permit requirements and shall include daily sampling and monitoring requirements to insure proper operation of the wastewater treatment facility.
CA-008-02 Waste Solids Management Plan 3 months after permit is issued	An updated Waste Solids Management Plan, addressing the management of silt dirt and tare solids shall be submitted to DEQ for review and approval. The update shall include monitoring and reporting requirements for inclusion in annual reports and an updated map, if necessary, delineating areas used for waste solids application.
CA-008-03 Buffer Zone Plan 12 months after permit is issued	An updated Buffer Zone Plan shall be submitted to DEQ for review and approval. The plan shall include a scaled, site map delineating buffer zones to homes, public access areas, public and private wells, and surface water bodies to demonstrate compliance with the buffer zone requirements in Section F. Buffer Zones

E. Compliance Schedule for Required Activities

Compliance Activity Number Completion Date	Compliance Activity Description
CA-008-04 Former Pond Closure Plan 2 months after permit is issued	An implementation schedule for the recommendations outlined in the <i>Pond Closure Report</i> , prepared by HDR Engineering, Inc., dated July 28, 2003, shall be submitted to DEQ for review and approval.
CA-008-05 Effluent Storage Pond Plan 6 months after permit is issued	A plan to address the underdrain water quality and quantity at the effluent storage pond shall be submitted to DEQ for review and approval. The plan shall include the results of seepage rate testing for the effluent storage pond.
CA-008-06 Phosphorus Plan As specified	To determine if future phosphorus permit limits are required, an analysis of the amount of phosphorus entering the Boise River via shallow ground water is required: 1. Submit a work plan for DEQ review and approval to provide an estimate of the phosphorus loading to the Boise River from the land application system via shallow ground water. Due three (3) months after permit issuance. 2. Submit an interim report on the work plan implementation, including an evaluation of the ground water data. Due fifteen (15) months after work plan approval, but no later than twenty (20) months after permit issuance. 3. Submit the phosphorus loading to the Boise River report. Due twelve (12) months after the interim report submittal. 4. Submit a Phosphorus Plan to comply with the TMDL Plan requirements for the Boise River. The plan is due six (6) months after the TMDL Plan is approved by the Environmental Protection Agency (EPA) or 38 months after permit issuance, which ever date is later.
CA-008-07 Odor Control Plan 6 months after permit is issued	An updated Odor Control Plan shall be submitted to DEQ for review and approval. The plan shall be revised to reflect current operations and procedures.
CA-008-08 Sampling and Analysis Plan 6 months after permit is issued	A Sampling and Analysis Plan shall be submitted to DEQ for review and approval. The plan shall include 1) a comprehensive description of the environmental sampling and analysis procedures for compliance with Section G. Monitoring Requirements and 2) detailed quality control/ quality assurance provisions.

F. Permit Limits and Conditions

- 1) The annual, growing season (GS), and non-growing season (NGS) permit limits in this section were put into effect on November 1, 2004. In addition, the monitoring requirements in section G. of the permit were put into effect on November 1, 2004. Note: See letter dated November 1, 2004 from DEQ to the J. R. Simplot Company.
- 2) All other limits and conditions become effective on the issue date of the permit.

The Permittee is allowed to apply wastewater and treat it on a land application site as prescribed in the table below and in accordance with all other applicable permit conditions and schedules.

Category	Permit Limits and Conditions																				
Types of Wastewater	Wastewater generated in potato handling, potato processing, frying operations, and ethanol production																				
Application Site Area	Total land application area: 1,887.2 acres Silt wastewater land application area: 93.7 acres Process wastewater land application area: 1,793.5 acres																				
Application Season	Year-round																				
Growing Season (GS)	April 1 through October 31 (214 days)																				
Non-growing Season (NGS)	November 1 through March 31 (151 or 152 days)																				
Reporting Year for Annual Loading Rates and Annual Report	November 1 through October 31																				
Growing Season Maximum Hydraulic Loading Rate (Applies to wastewater and supplemental irrigation water).	Growing Season (GS) Hydraulic Loading Rate shall generally follow the Irrigation Water Requirement (IWR) using data from the tables of the following University Of Idaho web site: http://www.kimberly.uidaho.edu/water/appndxet/index.shtml . IWR is equal to the Mean IR data from these tables divided by the irrigation system efficiency. In lieu of these tables, current climatic and evaporation data, or 30-year average data may be used to calculate the IWR, as defined in the 1994 Technical Interpretive Supplement, pages IV-6 and IV-7. Assume no carryover soil moisture and a leaching rate of zero in calculating the IWR.																				
Non-growing Season Maximum Hydraulic Loading Rate (HLR _{ngs}) for each HMU	HLR _{ngs} = Soil Available Water-Holding Capacity (AWC) – Precipitation + Evapotranspiration _{NGS} using the following values: Soil AWC: dependent on soil type(s) Precipitation _{NGS} : 5.0 inches (Nov 1 through Mar 31) Evapotranspiration _{NGS} : 5.3 inches (Nov 1 through Mar 31) <table><tr><th>HMU #</th><th>Acres</th><th>Inches</th><th>Million Gallons</th></tr><tr><td>MU-000808</td><td>93.7</td><td>7.8</td><td>20</td></tr><tr><td>MU-000809</td><td>143.8</td><td>5.0</td><td>20</td></tr><tr><td>MU-000810</td><td>134.5</td><td>6.0</td><td>22</td></tr><tr><td>MU-000811</td><td>113.4</td><td>5.6</td><td>17</td></tr></table>	HMU #	Acres	Inches	Million Gallons	MU-000808	93.7	7.8	20	MU-000809	143.8	5.0	20	MU-000810	134.5	6.0	22	MU-000811	113.4	5.6	17
HMU #	Acres	Inches	Million Gallons																		
MU-000808	93.7	7.8	20																		
MU-000809	143.8	5.0	20																		
MU-000810	134.5	6.0	22																		
MU-000811	113.4	5.6	17																		

F. Permit Limits and Conditions

Category	Permit Limits and Conditions			
Non-growing Season Maximum Hydraulic Loading Rate (HLR _{ngs}) for each HMU (continued)	<u>HMU #</u>	<u>Acres</u>	<u>Inches</u>	<u>Million Gallons</u>
	MU-000812	65.4	6.1	11
	MU-000813	80.2	5.1	11
	MU-000814	92.4	5.2	13
	MU-000815	174.6	6.2	29
	MU-000816	148.4	5.0	20
	MU-000817	193.0	5.3	28
	MU-000818	95.5	6.1	18
	MU-000819	151.7	7.8	32
	MU-000820	134.1	7.8	27
	MU-000821	140.8	6.5	24
	MU-000822	<u>125.7</u>	7.8	<u>27</u>
		1,887.2		299
	The maximum HLR _{ngs} for each HMU shall not be exceeded. The maximum total HLR _{ngs} for the entire site is 299 million gallons per year.			
Runoff	The permittee shall prepare and submit to DEQ for approval a Runoff Management Plan with control structures and other BMPs (e.g. collection basins, berms, etc.) designed to prevent runoff from any site or fields used for wastewater land application to property not permitted for land application except in the event of a 25-year, 24-hour storm event or greater, using Western Regional Climate Center (WRCC) Precipitation Frequency Map, Figure 28 'Isopluvials of 25-YR, 24-HR Precipitation'. For this site, the 25-year, 24-hour event is 1.8 inches. Upon approval of the plan by DEQ, the permittee shall implement the runoff management plan, and shall construct, operate, and maintain the control structures and other BMPs in accordance with the plan.			
Livestock Grazing	Grazing is allowed only with prior DEQ approval of a Grazing Management Plan			
Ground Water Quality	Ground water quality shall be in compliance with the Ground Water Quality Rule (GWQR), IDAPA 58.01.11. For areas where ground water degradation has occurred due to land application activities, sections 58.01.11.400.03 and 58.01.11.400.05 shall apply.			
Maximum COD Loading, GS and NGS average, pounds/acre-day, each HMU	50 pounds/acre-day			
Maximum Nitrogen Loading Rate, pounds/acre-year, each HMU (from all sources, including waste solids, animal wastes, and supplemental fertilizers)	150% of typical crop uptake (see Section C for definition)			

F. Permit Limits and Conditions

Category	Permit Limits and Conditions
Maximum Phosphorus Loading Rate, pounds/acre-year, each HMU (from all sources, including waste solids, animal wastes, and supplemental fertilizers)	See Section E., compliance activity CA-008-06
Construction Plans	Prior to construction or modification of all wastewater facilities associated with the land application system or expansion, plans and specifications shall be submitted to DEQ for review and approval by DEQ. Within 30 days of completion of construction, the permittee shall submit as-built plans for review and approval.
Wellhead Protection	Buffer zones of 500 feet or more shall be maintained between land application areas and private domestic water supplies and 1,000 feet or more for existing public water supplies unless a DEQ-approved well location acceptability analysis indicates an alternative buffer zone is acceptable. Berms and/or other best management practices (BMPs) shall be used to protect the well heads of on-site irrigation wells and monitoring wells.
Buffer Zones	Buffer zone distances shall be provided as follows: • Dwellings: 300 feet or more^a or as approved in a DEQ-approved buffer zone plan • Public Access Areas: 50 feet or more^a • Natural Surface Waters: 100 feet or more^a • Man-made Surface Waters: 50 feet or more^b (a) Buffer zone distances may be reduced if the Permittee employs DEQ-approved mitigation measures including: • Establishment of an effective physical barrier, or • Utilization of non-spray irrigation (drag tubes or equivalent), or • Managing irrigation systems in a manner that would prevent any spray drift towards the feature of interest, or • Run-off and/or over-spray controls. (b) The buffer distance to man-made irrigation conveyances may be reduced to less than the required distance if proposed by the Permittee and approved by the Department. The proposal for a reduced buffer zone must be supported with engineering designs and calculations showing that wastewater cannot leach or over-spray into man-made surface waters. Notwithstanding any other provision of this permit, including without limitation the buffer zones set forth herein, the permittee shall comply with the following: 1) wastewater applied by the permittee shall be restricted to the premises of the land application site, and 2) the permittee shall not discharge wastewater to surface waters of the state, without first obtaining all permits and other authorizations required by state and federal law.

F. Permit Limits and Conditions

Category	Permit Limits and Conditions
Supplemental Irrigation Water Protection	For systems with wastewater and fresh irrigation water interconnections, DEQ-approved backflow prevention devices are required.
Odor Management	All wastewater treatment systems, land application facilities and associated operations shall not create a public health hazard or nuisance conditions including odors. These facilities shall be operated in accordance with an approved Odor Management Plan.
Fencing and Posting	Not required

G. Monitoring Requirements

- 1) Appropriate analytical methods, as given in the *Handbook for Land Application of Municipal and Industrial Wastewater, April 1996*, or as approved by the Idaho Department of Environmental Quality, shall be employed. A description of approved sample collection methods, appropriate analytical methods, and companion QA/QC protocol shall be included in the Operation and Maintenance Manual.
- 2) The permittee shall monitor and measure parameters as stated in the Facility Monitoring Table in this section.
- 3) Samples shall be collected at times and locations that represent typical environmental and process parameters being monitored.
- 4) Unless otherwise agreed to in writing by the DEQ, data collected and submitted shall include, but not be limited to, the parameters and frequencies in the Facility Monitoring Table on the following pages. Monitoring is required at the frequency shown in the table below if wastewater is applied anytime during the time period shown.
- 5) Twenty (20) soil sample locations shall be selected for each management unit. Three (3) soil samples shall be collected at each sample location, one at 0-12 inches, one at 12-24 inches, and one at 24-36 inches. The soil samples collected at each depth shall be composited to yield three (3) samples for analysis from each management unit.
- 6) Ground Water Monitoring Procedure: Ground Water Monitoring Wells shall be purged a minimum of three casing volumes and/or until field measurements of at least two of pH, specific conductance and temperature meet the following conditions: successive temperature values measured at least five minutes apart are within one degree Celsius of each other, pH values for two successive measurements measured at least five minutes apart are within 0.2 units of each other, and two successive specific conductance values measured at least five minutes apart are within 10% of each other. This procedure will determine when the wells are suitable for sampling for constituents required by the permit. Other procedures, such as low flow sampling, may be considered by DEQ for approval. The static water level shall be measured prior to pumping or sampling the ground water.
- 7) Surface water sampling: DEQ to review and approve methods, timing and locations for sampling prior to initial sampling event.
- 8) Annual reporting of monitoring requirements is described in Section H, Standard Reporting Requirements.
- 9) Monitoring locations are defined in Appendix 1, "Environmental Monitoring Serial Numbers".

G. Monitoring Requirements

Facility Monitoring Table

Frequency	Monitoring Point	Description/Type of Monitoring	Parameters
Wastewater Monitoring			
Daily	Flowmeter or other DEQ approved method	Volume of wastewater applied (separate measurement for silt and process wastewater)	Volume (million gallons and acre-inches) to each HMU
Monthly	Process Wastewater	Wastewater quality to land application, 24-hour composite sample	Chemical Oxygen Demand, Total Kjeldahl Nitrogen, Ammonia-Nitrogen, Nitrite + Nitrate-Nitrogen, Total Phosphorus, Electrical Conductivity, pH
Monthly	Silt Wastewater	Wastewater quality to land application, 24-hour composite sample	Chemical Oxygen Demand, Total Kjeldahl Nitrogen, Ammonia-Nitrogen, Nitrite + Nitrate-Nitrogen, Total Phosphorus, Total Dissolved Solids, Volatile Dissolved Solids, pH
Quarterly (Jan, Apr, Jul, Oct)	Process Wastewater	Wastewater quality to land application, 24-hour composite sample	Total Dissolved Inorganic Solids (TDIS) see Section C. for definition of TDIS
Quarterly (Jan, Apr, Jul, Oct in 2005 only)	Process Wastewater	Wastewater quality to land application, 24-hour composite sample	Total Dissolved Solids (TDS), Volatile Dissolved Solids (VDS), Non-Volatile Dissolved Solids (NVDS)
Supplemental Irrigation Water Monitoring			
Daily	Flowmeter or other DEQ approved method	Volume of supplemental irrigation water applied	Volume (million gallons and acre-inches) to each HMU
Twice (May 2005 and Sep 2005)	Supplemental Irrigation Water	Supplemental irrigation water quality, grab sample	Chemical Oxygen Demand, Total Kjeldahl Nitrogen, Nitrate + Nitrite Nitrogen, Total Phosphorus, Total Dissolved Solids
Soil Monitoring			
Twice per year (Mar and Nov)	Each soil monitoring unit	See Note 5	Electrical Conductivity, pH, Nitrate-Nitrogen, Ammonium Nitrogen, Plant Available Phosphorus (Olsen method if soil pH > 6.5, Bray method if soil pH < 6.5)
Ground Water Monitoring			
Quarterly (Jan, Apr, Jul, Oct through Apr 2007) Twice per year (Apr and Oct thereafter)	Monitoring wells listed in Appendix 1, excluding domestic wells GW-000833 through GW-000837	See Note 6	Water table elevation, water table depth, pH, conductivity, temperature, Nitrate-Nitrogen, Total Phosphorus, Total Dissolved Solids, Total Iron, Total Manganese, Dissolved Iron ¹ , Dissolved Manganese ¹

G. Monitoring Requirements

Frequency	Monitoring Point	Description/Type of Monitoring	Parameters
Ground Water Monitoring (continued)			
Annually in October	Domestic wells GW-000833 through GW-000837	See Note 6	Nitrate-Nitrogen, Total Phosphorus, Total Dissolved Solids, Total Iron, Total Manganese, Dissolved Iron ¹ , Dissolved Manganese ¹
Surface Water Monitoring			
Annually, October	Boise River, upstream and downstream of site	See Note 7	Total Phosphorus, Ortho-Phosphorus, Total Dissolved Solids, Chemical Oxygen Demand, Chloride, Nitrate-Nitrogen
Site and Equipment Monitoring			
Annually	Flow measurement devices used for wastewater and supplemental irrigation water	Calibration	Document calibration of flow measuring equipment annually or as recommended in flow measuring device operation and maintenance manual
Annually	At wastewater and supplemental irrigation water interconnections	Test backflow prevention device using certified tester	Document the testing of all backflow prevention devices for supplemental irrigation water sources directly connected to the wastewater distribution system(s). Report the testing date(s) and results of the test (pass or fail). If any test failed, report the date of repair or replacement of backflow prevention device.
During 5-year permit cycle or as specified in Section E., CA-008-05	Silt and effluent wastewater storage ponds	Complete seepage rate testing using DEQ-approved procedures and submit results to DEQ	Seepage rate in inches per day
Crop Monitoring			
Annually	Each HMU	Crop type and yield	Tons/acre, bushels/acre, etc. as appropriate and total yield per harvest for each crop (specify moisture basis for reported yield)
Annually	Each HMU	Plant tissue analysis: composite sample of harvested portion each crop per harvest	Nitrate-Nitrogen, Total Kjeldahl Nitrogen, Total Phosphorus, Ash, Moisture
Calculations			
As specified	Each HMU	Monthly IWR for each crop type. Specify basis for calculations	IWR in inches and million gallons for each crop type, report monthly

G. Monitoring Requirements

Frequency	Monitoring Point	Description/Type of Monitoring	Parameters
Annually	Each HMU	GS wastewater application volume	Million gallons and inches to each HMU. Report monthly and total for season
Annually	Each HMU	GS supplemental irrigation water volume	Million gallons and inches to each HMU. Report monthly and total for season
Annually	Each HMU	GS total hydraulic application volume	Million gallons and inches to each HMU. Report monthly and total for season
Annually	Each HMU	NGS wastewater application volume	Million gallons and inches to each HMU. Report monthly and total for season
Annually	Each HMU	Nitrogen loading rate from wastewater application	Pounds/acre-year
Annually	Each HMU	Seasonal average COD loading rate (GS and NGS) from wastewater	Pounds/acre-day
Annually	Each HMU	Phosphorus loading rate from wastewater application	Pounds/acre-year
Annually	Each HMU	TDIS loading rate from wastewater application	Pounds/acre-year
Annually	Each HMU	Report nitrogen and phosphorus fertilizer application amounts	Pounds/acre-year
Annually	Each HMU	Crop nitrogen, phosphorus, and ash removal	Pounds/acre and total pounds per HMU (dry basis)

1. Analytical results are required for dissolved iron and/or manganese only if the results for total iron and/or total manganese exceed the Ground Water Quality Standards listed in IDAPA 58.01.11 (0.30 mg/l for total iron, 0.05 mg/l for total manganese).

H. Reporting Requirements

- 1.) The Permittee shall submit an Annual Wastewater-Land Application Site Performance Report ("Annual Report") prepared by a competent environmental professional no later than January 31 of each year, which shall cover the previous reporting year. The Annual Report shall include an interpretive discussion of monitoring data (ground water, soils, hydraulic loading, wastewater etc.) with particular respect to environmental impacts by the facility.
- 2.) The annual report shall contain the results of the required monitoring as described in *Section G. Monitoring Requirements*. If the permittee monitors any parameter more frequently than required by this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the annual report.
- 3.) The annual report shall be submitted to the Engineering Manager in the applicable Regional DEQ Office.

Boise Regional Office
1445 N. Orchard
Boise, ID 83706-2239
208-373-0550

Coeur d'Alene Regional Office
2110 Ironwood Parkway
Coeur d'Alene, ID 83814
208-769-1422

Idaho Falls Regional Office
900 N. Skyline, Suite B
Idaho Falls, ID 83402
208-528-2650

Lewiston Regional Office
1118 "F" Street
Lewiston, ID 83501
208-799-4370

Pocatello Regional Office
444 Hospital Way, #300
Pocatello, ID 83201
208-236-6160

Twin Falls Regional Office
601 Pole Line Road, Suite 2
Twin Falls, ID 83301
208-736-2190

A copy of the annual report shall also be mailed to:

Richard Huddleston, P.E.
Wastewater Program Manager
1410 N. Hilton
Boise, ID 83706
208-373-0561

- 4.) Notice of completion of any work described in *Section E. Compliance Schedule for Required Activities* shall be submitted to the Department within 30 days of activity completion. The status of all other work described in Section E shall be submitted with the Annual Report.
- 5.) All laboratory reports containing the sample results for monitoring required by *Section G. Monitoring Requirements* of this permit shall be submitted with the Annual Report.

I. Standard Permit Conditions: Procedures and Reporting

1. The permittee shall at all times properly maintain and operate all structures, systems, and equipment for treatment, operational controls and monitoring, which are installed or used by the permittee to comply with all conditions of the permit or the Wastewater-Land Application Permit Regulations, in conformance with a DEQ approved, current Plan of Operations (Operations and Maintenance Manual) which describes in detail the operation, maintenance, and management of the wastewater treatment system. This Plan of Operations shall be updated as necessary to reflect current operations.
2. Wastewater(s) or recharge waters applied to the land surface must be restricted to the premises of the application site unless permission has been obtained from the DEQ authorizing a discharge into the waters of the State as stated in IDAPA 58.01.02.600.02.
3. Wastewater must not create a public health hazard or nuisance condition as stated in IDAPA 58.01.02.600.03. In order to prevent public health hazards and nuisance conditions the permittee shall:
 - a. Apply wastewater as evenly as practicable to the treatment area;
 - b. Prevent organic solids (contained in the wastewater) from accumulating on the ground surface to the point where the solids putrefy or support vectors or insects; and
 - c. Prevent wastewater from ponding in the fields to the point where the ponded wastewater putrefies or supports vectors or insects.
4. The permittee shall:
 - a. Manage the wastewater land application treatment site as an agronomic operation where vegetative cover is grown and harvested or grazed to utilize the nutrients and minerals in the wastewater, and,
 - b. Not hydraulically overload any particular areas of the wastewater land application treatment site.
5. All waste solids, including dredgings and sludges, shall be utilized or disposed in a manner which will prevent their entry, or the entry of contaminated drainage or leachate therefrom, into the waters of the state such that health hazards and nuisance conditions are not created; and to prevent impacts on designated beneficial uses of the ground water and surface water. The permittee's management of waste solids shall be governed by the terms of the DEQ approved Waste Solids Management Plan, which upon approval shall be an enforceable portion of this permit.
6. If the permittee intends to continue operation of the permitted facility after the expiration of an existing permit, the permittee shall apply for a new permit at least six months prior to the expiration date of the existing permit in accordance with the Waste Water Land Application Permit Regulations and include seepage tests on all lagoons per latest DEQ procedures.
7. The permittee shall allow the Director of the Idaho Department of Environmental Quality or the Director's designee (hereinafter referred to as Director), consistent with Title 39, Chapter 1, Idaho Code, to:
 - a. Enter the permitted facility,
 - b. Inspect any records that must be kept under the conditions of the permit.
 - c. Inspect any facility, equipment, practice, or operation permitted or required by the permit.
 - d. Sample or monitor for the purpose of assuring permit compliance, any substance or any parameter at the facility.
8. The permittee shall report to the Director under the circumstances and in the manner specified in this section:
 - a. In writing thirty (30) days before any planned physical alteration or addition to the permitted facility or activity if that alteration or addition would result in any significant change in information that was submitted during the permit application process.
 - b. In writing thirty (30) days before any anticipated change which would result in non-compliance with any permit condition or these regulations.
 - c. Orally within twenty-four (24) hours from the time the permittee became aware of any non-compliance which may endanger the public health or the environment at telephone numbers provided in the permit by the Director (see below):

DEQ Regional Office: see Permit Certificate Page
Emergency 24 Hour Number: 1-800-632-8000

I. Standard Permit Conditions: Procedures and Reporting

- d. In writing as soon as possible but within five (5) days of the date the permittee knows or should know of any non-compliance unless extended by the DEQ. This report shall contain:
 - i. A description of the non-compliance and its cause;
 - ii. The period of non-compliance including to the extent possible, times and dates and, if the non-compliance has not been corrected, the anticipated time it is expected to continue; and
 - iii. Steps taken or planned to reduce or eliminate reoccurrence of the non-compliance.
 - e. In writing as soon as possible after the permittee becomes aware of relevant facts not submitted or incorrect information submitted, in a permit application or any report to the Director. Those facts or the correct information shall be included as a part of this report.
9. The permittee shall take all necessary actions to prevent or eliminate any adverse impact on the public health or the environment resulting from permit noncompliance.
10. The permittee shall determine (on an on-going basis) if any noxious weed problems relate to the permitted sites. If problems are present, coordinate with the Idaho Department of Agriculture or the local County authority regarding their requirements for noxious weed control. Also address these control operations in an update to the Operations and Maintenance Manual.

J. Standard Permit Conditions, Modifications, Violation, and Revocation

1. The permittee shall furnish to the Director within reasonable time, any information including copies of records, which may be requested by the Director to determine whether cause exists for modifying, revoking, re-issuing, or terminating the permit, or to determine compliance with the permit or these regulations.
2. Both minor and major modifications may be made to this permit as stated in IDAPA 58.01.17.700.01 and 02 with respect to any conditions stated in this permit upon review and approval of the DEQ.
3. Whenever a facility expansion, production increase or process modification is anticipated which will result in a change in the character of pollutants to be discharged or which will result in a new or increased discharge that will exceed the conditions of this permit, or if it is determined by the DEQ that the terms or conditions of the permit must be modified in order to adequately protect the public health or environment, a request for either major or minor modifications must be submitted together with the reports as described in Section I. *Standard Reporting Requirements*, and plans and specifications for the proposed changes. No such facility expansion, production increase or process modification shall be made until plans have been reviewed and approved by the DEQ and a new permit or permit modification has been issued.
4. Permits shall be transferable to a new owner or operator provided that the permittee notifies the Director by requesting a minor modification of the permit before the date of transfer.
5. Any person violating any provision of the Wastewater Land Application Permit Regulations, or any permit or order issued thereunder shall be liable for a civil penalty not to exceed ten thousand dollars (\$10,000) or one thousand dollars (\$1,000) for each day of a continuing violation, whichever is greater. In addition, pursuant to Title 39, Chapter 1, Idaho Code, any willful or negligent violation may constitute a misdemeanor.
6. The Director may revoke a permit if the permittee violates any permit condition or the Wastewater Land Application Permit Regulations.
7. Except in cases of emergency, the Director shall issue a written notice of intent to revoke to the permittee prior to final revocation. Revocation shall become final within thirty-five (35) days of receipt of the notice by the permittee, unless within that time the permittee request an administrative hearing in writing to the Board of Environmental Quality pursuant to the Rules of Administrative Procedures contained in IDAPA 58.01.23.
8. If, pursuant to Idaho Code, 67-5247, the Director finds the public health, safety or welfare requires emergency action, the Director shall incorporate findings in support of such action in a written notice of emergency revocation issued to the permittee. Emergency revocation shall be effective upon receipt by the permittee. Thereafter, if requested by the permittee in writing, a revocation hearing before the Board of Environmental Quality shall be provided. Such hearings shall be conducted in accordance with the Rules of Administrative Procedures contained in IDAPA 58.01.23.
9. The provisions of this permit are severable and if a provision or its application is declared invalid or unenforceable for any reason, that declaration will not affect the validity or enforceability of the remaining provisions.
10. The permittee shall notify the DEQ at least six (6) months prior to permanently removing any permitted land application facility from service, including any treatment, storage, or other facilities or equipment associated with the land application site. Prior to commencing closure activities, the permittee shall: a) participate in a pre-site closure meeting with the DEQ; b) develop a site closure plan that identifies specific closure, site characterization, or cleanup tasks with scheduled task completion dates in accordance with agreements made at the pre-site closure meeting; and c) submit the completed site closure plan to the DEQ for review and approval within forty-five (45) days of the pre-site closure meeting. The permittee must complete the DEQ approved site closure plan.

Appendix 1

Environmental Monitoring Serial Numbers

HYDRAULIC MANAGEMENT UNITS

Serial Number	Description	Use	Acres
MU-000801 through MU-000807	No longer used		
MU-000808	Fields 71, 72, and 73	Silt	93.7
MU-000809	Fields 10, B3, B5, B7, and B10	Process	143.8
MU-000810	Fields 12, 13, and 15	Process	134.5
MU-000811	Fields 11, 14, 16, and 18	Process	113.4
MU-000812	Fields B12 and B13	Process	65.4
MU-000813	Fields 79 and C1	Process	80.2
MU-000814	Fields 80, 81, and 82	Process	92.4
MU-000815	Fields 41, 42, 43, and 47	Process	174.6
MU-000816	Fields 5, 6, 8, 9, 49, and 50	Process	148.4
MU-000817	Fields 22, 24, 25, 27, 28, 29, and 30	Process	193.0
MU-000818	Fields 74, 75, and 76	Process	95.5
MU-000819	Fields 62, 63, 64, 67, and 68	Process	151.7
MU-000820	Fields 61, 65, 70A, and 70B	Process	134.1
MU-000821	Fields 53A, 53B, 59, 60, and 66	Process	140.8
MU-000822	Fields 55A, 55B, 57, and 58	Process	125.7

Total silt wastewater land application area: 93.7 acres

Total process wastewater land application area: 1,793.5 acres

WASTEWATER SAMPLING POINTS

Serial Number	Description
WW-000801	Process wastewater
WW-000802 through WW-000805	No longer used
WW-000806	Silt wastewater

SUPPLEMENTAL IRRIGATION WATER SAMPLING POINT

Serial Number	Description
SI-000801	Supplemental irrigation water from Dixie Slough
SI-000802	Supplemental irrigation water from Pioneer Irrigation District

Appendix 1

Environmental Monitoring Serial Numbers

SURFACE WATER SAMPLING POINTS

Serial Number	Description
SW-000801	Boise River, upstream of land application site
SW-000802	Boise River, downstream of land application site

LAGOONS

Serial Number	Description
LG-000801	Anaerobic Digester
LG-000802	Silt wastewater storage lagoon
LG-000803	Process wastewater storage lagoon

SOIL MANAGEMENT UNITS

Serial Number	Description	Associated HMU
SU-000801 through SU-000807	No longer used	
SU-000808	Fields 71, 72, and 73	MU-000808
SU-000809	Fields 10, B3, B5, B7, and B10	MU-000809
SU-000810	Fields 12, 13, and 15	MU-000810
SU-000811	Fields 11, 14, 16, and 18	MU-000811
SU-000812	Fields B12 and B13	MU-000812
SU-000813	Fields 79 and C1	MU-000813
SU-000814	Fields 80, 81, and 82	MU-000814
SU-000815	Fields 41, 42, 43, and 47	MU-000815
SU-000816	Fields 5, 6, 8, 9, 49, and 50	MU-000816
SU-000817	Fields 22, 24, 25, 27, 28, 29, and 30	MU-000817
SU-000818	Fields 74, 75, and 76	MU-000818
SU-000819	Fields 62, 63, 64, 67, and 68	MU-000819
SU-000820	Fields 61, 65, 70A, and 70B	MU-000820
SU-000821	Fields 53A, 53B, 59, 60, and 66	MU-000821
SU-000822	Fields 55A, 55B, 57, and 58	MU-000822

Appendix 1
Environmental Monitoring Serial Numbers
GROUND WATER MONITORING POINTS

Serial No.	Common Name	Description/Location	Sampling Req'd
GW-000801	MW-1	Downgradient of site. NW corner of pivot B5	YES
GW-000802	MW-2	Downgradient of site. NW of pivot B13	YES
GW-000803	MW-3	SW corner of pivot B13	YES
GW-000804	MW-4	SE corner of pivot B12	YES
GW-000805	MW-5	East side of field B10	YES
GW-000806	MW-6	Downgradient of site. NE corner of pivot B3	YES
GW-000807	MW-7	South of pivot B3	NO
GW-000808	MW-8	East portion of pivot B13	NO
GW-000809	MW-9	West of pivot 47A	YES
GW-000810	MW-10	NW of plant area (north of Highway 19)	NO
GW-000811	MW-11	Field 22	YES
GW-000812	MW-12	Upgradient of site. SE corner of pivot 27	YES
GW-000813	MW-13	North of pivot 63 (upgradient well prior to expansion)	YES
GW-000814	MW-14	East of field 15 (near Boise River)	YES
GW-000815	MW-15	NE of pivot 13 (near Boise River)	YES
GW-000816	MW-16	East of field 6	YES
GW-000817	MW-17	Downgradient of site. North of field 12 (near Boise River)	YES
GW-000818	MW-18	Downgradient of site. NW corner of pivot 11	YES
GW-000819	MW-19	North of field 43B	YES
GW-000820	MW-20	At former process wastewater ponds located by the Boise River	YES
GW-000823	MW-23	SE corner of pivot 14	YES
GW-000824	MW-24	Upgradient of site. NW corner of pivot 55A	YES
GW-000825	MW-25	Land and Livestock expansion area	NO
GW-000826	MW-26	Land and Livestock expansion area	NO
GW-000827	MW-27	Upgradient of site. SE corner of pivot 55B	YES
GW-000828	MW-28	Land and Livestock expansion area	NO
GW-000829	MW-29	Land and Livestock expansion area	NO
GW-000830	MW-30	Downgradient of site. ~2,000 feet NW of MW-1	YES
GW-000831	MW-31	Downgradient of site. ~4,000 feet west of MW-17	YES
GW-000832	MW-32	Between field 79 and C1	YES
GW-000833	DW-21	Schuck, in field B3	YES
GW-000834	DW-26	E. Winters, downgradient of site. ~1,000 feet north of MW-1	YES
GW-000835	DW-27	Red Top School	YES
GW-000836	DW-31	Haylette, ~1,000 feet south of MW-32	YES
GW-000837	DW-38	Feedlot Well #3	YES
GW-000838	S1	Upgradient of silt water site, SW corner of pivot 70B	YES
GW-000839	S2	Upgradient of silt water site, SE corner of pivot 72	YES
GW-000840	S3	NW corner of pivot 74	YES
GW-000841	S4	Downgradient of site. West of pivot 76	YES
GW-000842	S5	North of silt water pond	YES
GW-000843	MW-33	Anaerobic digester water table monitoring well	NO
GW-000844	MW-34	Anaerobic digester water table monitoring well	NO
GW-000845	MW-35	North of pivot 64	YES
GW-000846	MW-36	Upgradient of site. South of pivots 60 and 66	YES
GW-000847	MW-37	Upgradient of site. East of pivot 55A	YES
GW-000848	MW-38	Downgradient of site. NW of field 79	YES
GW-000849	MW-39	Downgradient of site. West of pivot 82	YES
GW-000850	MW-40	SW corner of pivot 80	YES

48 total monitoring wells, 39 require sampling

Site Maps

Figure 1.1, *Caldwell and Simplot Vicinity Map*

Figure 1.2, *Aerial photograph*

Figure 3.1, *Process Water Flow Diagram* (link to PDF file)

Figure 1-3, *Land Application Map* (link to PDF file)

Figure 2.1, *Groundwater Isopleth, April 2002* (link to PDF file)

SIMPLOT-CALDWELL FACILITY

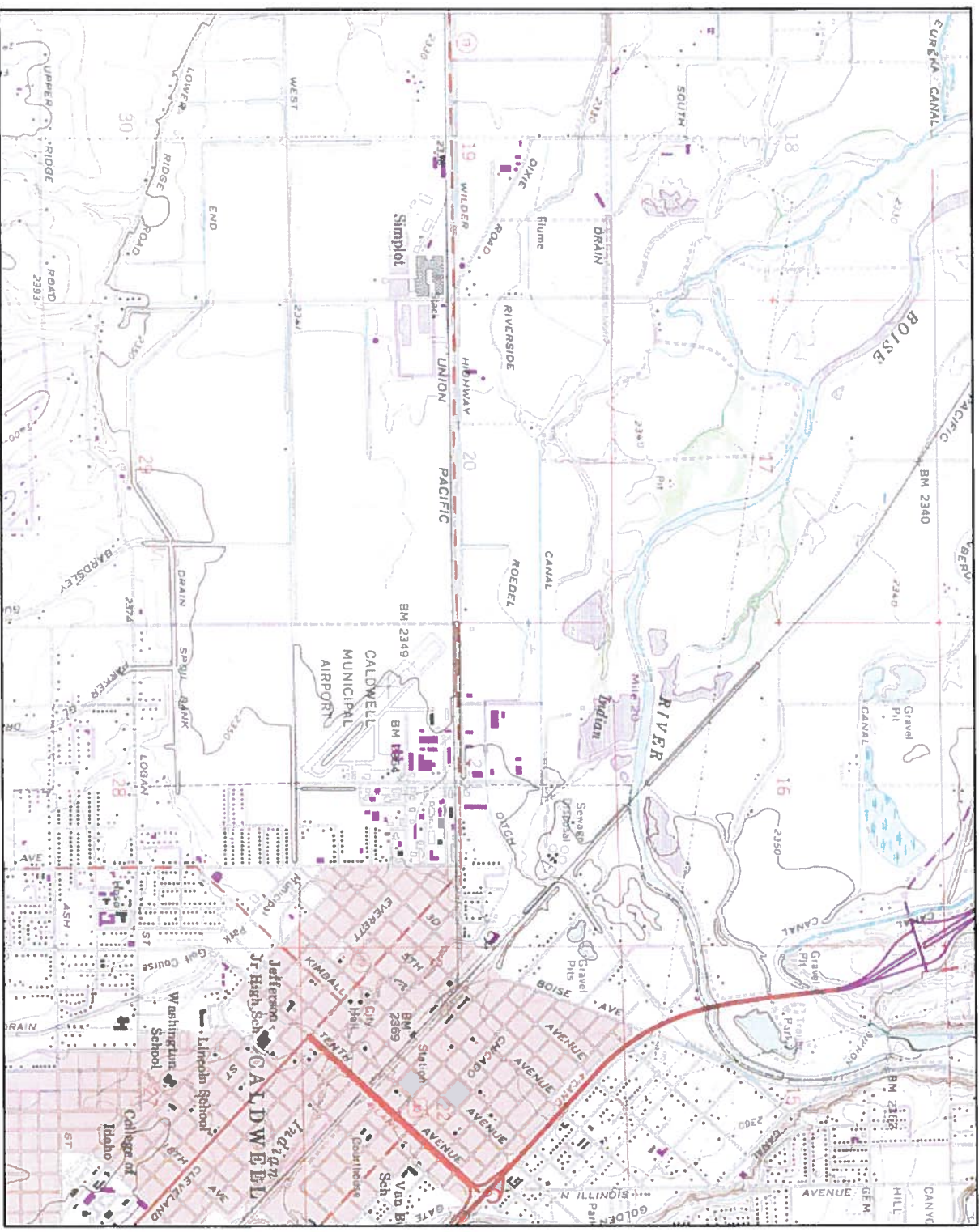


Figure 1-1. Caldwell and Simplot Vicinity Map

SIMPLOT-CALDWELL FACILITY

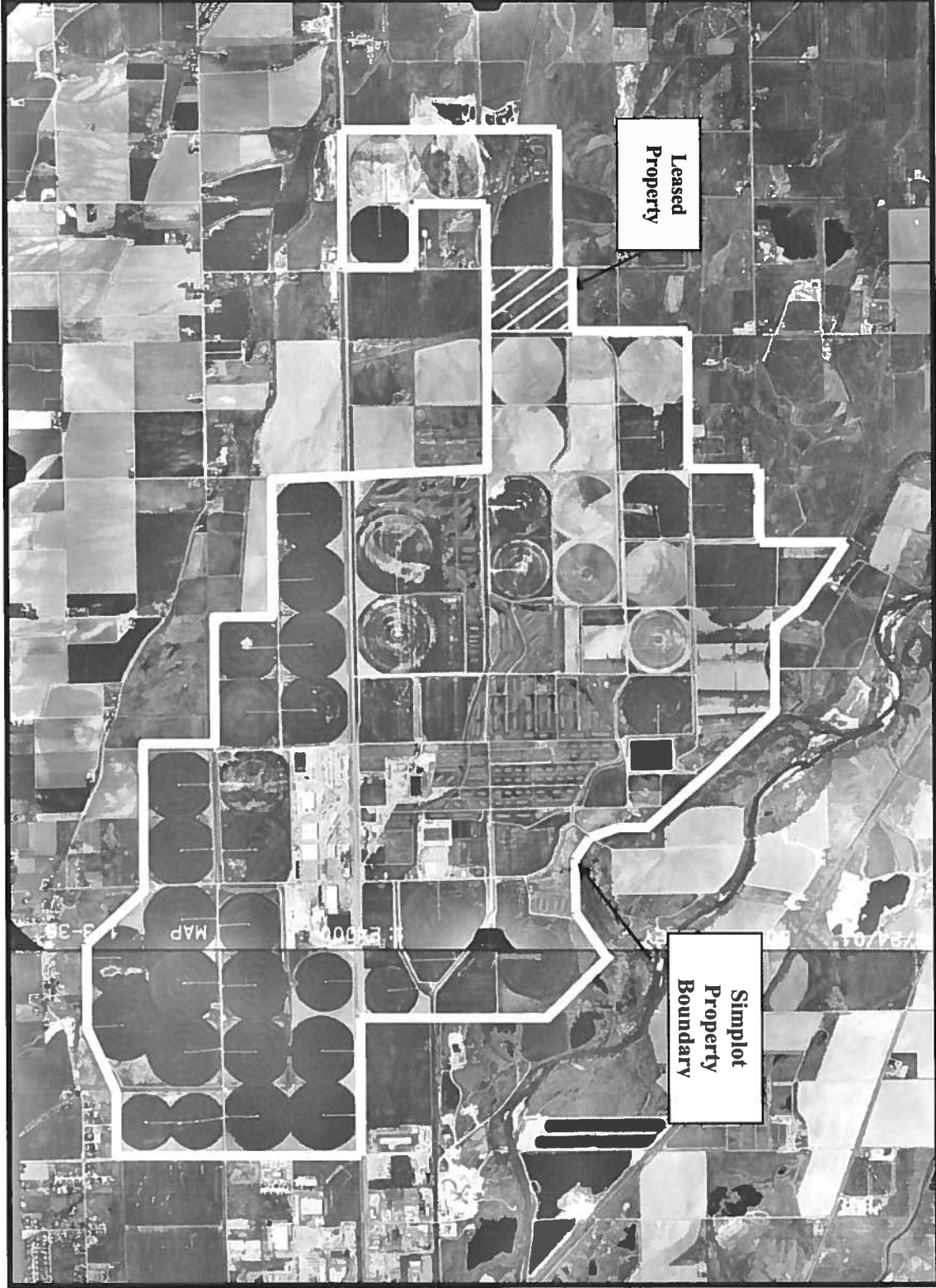
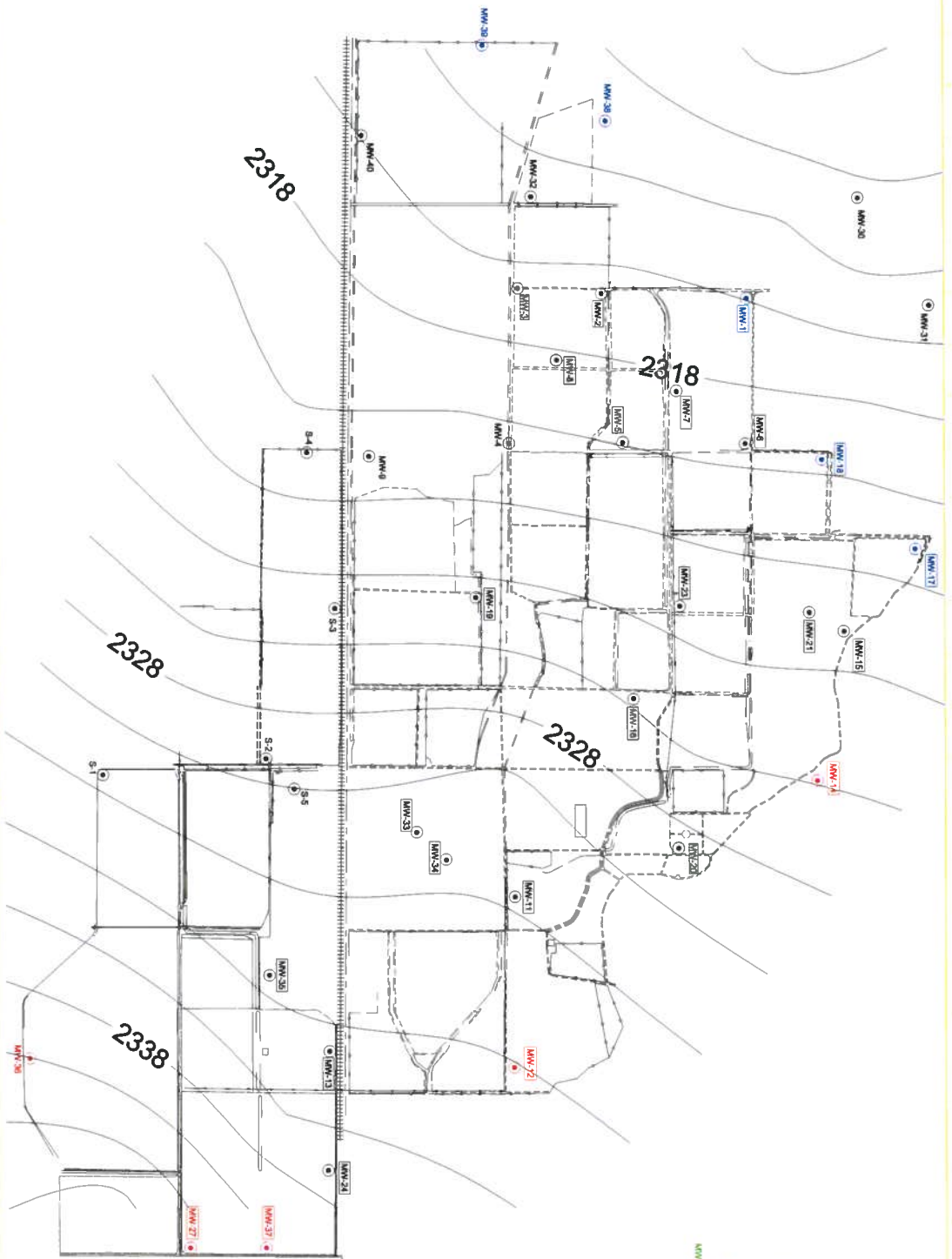


Figure 1-2. Aerial photograph (April 2001) with approximate border surrounding Simplot property.



1 A



LEGEND

- LENGTH OF FOOT MARKING
- ADJUSTED LENGTH FOOT MARKING
- TOTAL ADJUSTED
- UNADJUSTED FOOT MARKING
- UNADJUSTED UNIT
- WETLAND
- UNADJUSTED UNIT

SCALE

1" = 100'

Figure 2-1. Groundwater isopleth, April 2002
CALDWELL, IDAHO



W.A. 2004
 W.A. 2004
 W.A. 2004

Simplot-Caldwell Facility

Figure 3-1. Process Water Flow Diagram

