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investing in our energy

SEP 2 9 2008

September 26, 2008

Mr. Matt Garn
Utah Division of Water Quality
288 North 1460 West
P.O. Box 144870
Salt Lake City, UT 84114-4810

Re: Velvet Mine UPDES permit application.

Dear Mr. Garn;

Uranium One Exploration Inc. (Uranium One) is planning on re-opening the Velvet Mine in San Juan County, Utah. In order to dewater the flooded workings of this existing but inoperative uranium mine, pumping treatment and discharge of the mine waters is proposed.

Attached is an application for a UPDES permit as required by section R317-8 of the Utah Administrative Code. Please find enclosed:

- EPA General Form 1
- EPA Form 2D
- Supporting narrative with Tables and figures for the application
- Analytical data tables in support of the application

As you may be aware, this application is very similar to other UPDES permits for uranium mines in southern Utah reviewed and awarded by your office, most notably for the Energy Queen Mine in La Sal, Utah. As dewatering of this mine is a critical path item toward is renewed operation, your assistance with expediting this application would be greatly appreciated. Please feel free to contact me at (970) 231-1160 or toby.wright@uranium1.com should you have any questions regarding this application.

Sincerely,

Toby Wright
Environmental Manager
Uranium One USA

DWQ-2008-001662
Document Date: 09/26/2008

Uranium One U.S.A. Inc.
tel +1 970-231-1160 • **fax** +1 970-223-7171
3801 Automation Way
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Colorado • 80525
www.uranium1.com

Please print or type in the unshaded areas only
(fill-in areas are spaced for elite type, i.e., 12 characters/inch).

For Approved. OMB No. 2040-0086. Approval expires 5-31-92

FORM 1 GENERAL

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER

S F		T/A	C D
1	2 — 13	14	15

LABEL ITEMS

- **I. EPA I.D. NUMBER**
- **III. FACILITY NAME**
- **V. FACILITY MAILING LIST**
- **VI. FACILITY LOCATION**

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been proved. Refer to the instructions for detailed item descriptions and for the legal authorization under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental from listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of **bold-faced terms.**

SPECIFIC QUESTIONS	MARK "X" YES	NO	FORM ATTACHED	SPECIFIC QUESTIONS	MARK "X" YES	NO	FORM ATTACHED
A. Is this facility a **publicly owned treatment works** which results in a **discharge** to **waters of the U.S.?** (FORM 2A)	☐ 16	☒ 17	☐ 18	B. Does or will this facility *(either existing or proposed)* include a **concentrated animal feeding operation** or **aquatic animal production facility** which results in a **discharge** to **waters of the U.S.?** (FORM 2B)	☐ 19	☒ 20	☐ 21
C. Is this facility which currently results in **discharges** to **waters of the U.S.** other than those described in A or B above? (FORM 2C)	☐ 22	☒ 23	☐ 24	D. Is this proposal facility *(other than those described in A or B above)* which will result in a **discharge** to **waters of the U.S.?** (FORM 2D)	☒ 25	☐ 26	☐ 27
E. Does or will this facility treat, store, or dispose of **hazardous wastes?** (FORM 3)	☐ 28	☒ 29	☐ 30	F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)	☐ 31	☒ 32	☐ 33
G. Do you or will you inject at this facility any produced water other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)	☐ 34	☒ 35	☐ 36	H. Do you or will you inject at this facility fluids for special processes such as mining of sulfer by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)	☐ 37	☒ 38	☐ 39
I. Is this facility a proposed **stationary source** which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area?** (FORM 5)	☐ 40	☒ 41	☐ 42	J. Is this facility a proposed **stationary source** which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment are?** (FORM 5)	☐ 43	☒ 44	☐ 45

III. NAME OF FACILITY

C 1 | SKIP (15, 16-29) | Velvet Mine (30 — 69)

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
C 2 — Wright, Toby Environmental Manager (15 — 45)	970 (46 — 48) 231 (49 — 51) 1160 (52 — 55)

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX			
C 3 — 11850 South Highway 191, Unit A-5 (15 — 45)			
B. CITY OR TOWN	**C. STATE**	**D. ZIP CODE**	
C 4 — Moab (15 — 40)	UT (41 — 42)	84532 (47 — 51)	

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER				
C 5 — T31S, R25E (15 — 45)				
B. COUNTY NAME				
San Juan (46 — 70)				
C. CITY OR TOWN	**D. STATE**	**E. ZIP CODE**	**F. COUNTY CODE**	
C 6 (15 — 40)	(41 — 42)	(47 — 51)	(52 — 54)	

CONTINUED FROM THE FRONT

VII. SIC CODES *(4-digit, in order of priority)*

A. FIRST	B. SECOND
1094 (specify) URANIUM ORE	(specify)
C. THIRD	**D. FOURTH**
(specify)	(specify)

VIII. OPERATOR INFORMATION

A. NAME: Uranium One Exploration, INC.

B. Is the name listed in Item VIII-A also the owner? ☐ YES ☐ NO

C. STATUS OF OPERATOR *(Enter the appropriate letter into the answer box; if "Other," specify.)*
F = FEDERAL; M = PUBLIC *(other than federal or state)*; S = STATE; O = OTHER *(specify)*; P = PRIVATE
(specify) P

D. PHONE *(area code & no.)*: A — 303 325 2370

E. STREET OR PO BOX: SUITE 230, 8055 EAST TUFTS AVENUE

F. CITY OR TOWN: DENVER

G. STATE: CO

H. ZIP CODE: 80237

IX. INDIAN LAND

Is the facility located on Indian lands? ☐ YES ☐ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES *(Discharges to Surface Water)*: N	D. PSD *(Air Emissions from Proposed Sources)*: P	
B. UIC *(Underground Injection of Fluids)*: U	E. OTHER *(specify)*:	*(Specify)*
C. RCRA *(Hazardous Wastes)*: R	E. OTHER *(specify)*:	*(Specify)*

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS *(provide a brief description)*

Uranium One Exploration, Inc. is a uranium mining company with corporate headquarters in Denver, Colorado. The Velvet Mine, a uranium mine located in Lisbon Valley, Utah (T31S, R25E, Section 3, San Juan County), was operated in the 1980's but closed in the 1990's. The proposed action is to resume mining by dewatering the flooded mine workings using the same method and locations as used historically at the mine, treating the pumped water and returning a portion (>50%) of the treated water to the adjacent ephmeral surface drainage while consuming the remainder of the water in the minining process. See Form 2D for additional information.

XIII. CERTIFICATION *(see instructions)*

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE *(type or print)*	B. SIGNATURE	C. DATE SIGNED
Toby Wright; Environmental Mgr	Toby Wright	Sept 26, 2008

COMMENTS FOR OFFICIAL USE ONLY

Form Approved. OMB No. 2040-0086. Approval expires 8-31-98.

Please print or type in the unshaded areas only	EPA I.D. NUMBER (*copy from Item 1 of Form 1*)	

Form 2D NPDES

EPA

New Sources and New Dischargers Application for Permit to Discharge Process Wastewater

I. Outfall Location

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

Outfall Number (*list*)	Latitude			Longitude			Receiving Water (*name*)
	Deg.	Min.	Sec.	Deg.	Min.	Sec.	
001	109.00	9.00	40.00	38.00	6.00	55.00	unnamed emphermal drainage to Dry Wash to Big Indian Wash to Hatch Wash to to Kane Creek to Colorado River.

II. Discharge Date (When do you expect to begin discharging?)

10/15/2008

III. Flows, Sources of Pollution, and Treatment Technologies

A. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

Outfall Number	1. Operations Contributing Flow (*List*)	2. Average Flow (*Include Units*)	3. Treatment (*Description or List codes from Table 2D-1*)
001	Treatment effluent from mine	250 gpm	Chemical treatment with Baraium Choloride of mine waters followed by floculation and settling. Solids will be placed in an offsite while liquid effluent will be discharge to the surface under a a UPDES permit. Initial flow rate from 10/15/08 through 4/15/09.
001	Treatment effluent from mine	25 gpm	Same treatment process, lower flow rate for long-term mine dewatering Waste products will be handled in the same manner. Long-term flow rate from 4/16/09 to approximately 4/15/18.

B. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item III-A. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined (e.g., for certain mining activities), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

C. Except for storm runoff, leaks, or spills, will any of the discharges described in Items III-A be intermittent or seasonal?

☐ YES (*complete the following table*) ☑ NO (*go to Section IV*)

Outfall Number	1. Frequency		2. Flow		
	a. Days Per Week (*specify average*)	b. Months Per Year (*specify average*)	a. Maximum Daily Flow Rate (*in mgd*)	b. Maximum Total Volume (*specify with units*)	c. Duration (*in days*)

IV. Production

If there is an applicable production-based effluent guideline or NSPS, for each outfall list the estimated level of production (projection of actual production level, not design), expressed in the terms and units used in the applicable effluent guideline or NSPS, for each of the first 3 years of operation. If production is likely to vary, you may also submit alternative estimates (attach a separate sheet).

Year	A. Quantity Per Day	B. Units Of Measure	c. Operation, Product, Material, etc. (*specify*)
2,009.00	350.00	tons\day	Uranium ore from mine
2,010.00	350.00	tons\day	Uranium ore fomr mine
2,011.00	350.00	tons/day	Uranium ore from mine

CONTINUED FROM THE FRONT	EPA I.D. NUMBER (*copy from Item 1 of Form 1*)	Outfall Number
		001

V. Effluent Characteristics

A and B: These items require you to report estimated amounts (*both concentration and mass*) of the pollutants to be discharged from each of your outfalls. Each part of this item addresses a different set of pollutants and should be completed in accordance with the specific instructions for that part. Data for each outfall should be on a separate page. Attach additional sheets of paper if necessary.

General Instructions *(See table 2D-2 for Pollutants)*
Each part of this item requests you to provide an estimated daily maximum and average for certain pollutants and the source of information. Data for all pollutants in Group A, for all outfalls, must be submitted unless waived by the permitting authority. For all outfalls, data for pollutants in Group B should be reported only for pollutants which you believe will be present or are limited directly by an effluent limitations guideline or NSPS or indirectly through limitations on an indicator pollutant.

1. Pollutant	2. Maximum Daily Value *(include units)*	3. Average Daily Value *(include units)*	4. Source *(see instructions)*
TSS (mg/L)	30 mg/L	20 mg/L	40 CFR PArt 440.32 and 440.33
TDS (mg/L)	1,000 mg/L	NA	Utah Water Qaulity Standard
TSD (tons/day)	1.0 tons/day	NA	CRBSCF, Feb 1977 Policy
COD (mg/L)	200 mg/L	100 mg/L	40 CFR PArt 440.32 and 440.33
pH (s.u.)	6.6 -9.0	NA	Utah Secondary Treatment Standards
Total Nat. Uranium (mg/L)	4.0	2.0	40 CFR PArt 440.32 and 440.33
Ra-226 (T) (pCi/L)	30 pCi/L	10 pCi/L	40 CFR PArt 440.32 and 440.33
Ra-226 (D) (pCi/L)	10 pCi/L	3 pCi/L	40 CFR PArt 440.32 and 440.33
Oil & Grease (mg/L)	10 mg/L	NA	4 = professional judgement
Molybdenum (mg/L)	5 mg/L	2 mg/L	1
See attached Tables 1 & 2			

CONTINUED FROM THE FRONT	EPA I.D. NUMBER (*copy from Item 1 of Form 1*)	

C. Use the space below to list any of the pollutants listed in Table 2D-3 of the instructions which you know or have reason to believe will be discharged from any outfall. For every pollutant you list, briefly describe the reasons you believe it will be present.

1. Pollutant	2. Reason for Discharge

VI. Engineering Report on Wastewater Treatment

A. If there is any technical evaluation concerning your wastewater treatment, including engineering reports or pilot plant studies, check the appropriate box below.

☑ Report Available ☐ No Report

B. Provide the name and location of any existing plant(s) which, to the best of your knowledge resembles this production facility with respect to production processes, wastewater constituents, or wastewater treatments.

Name	Location
Energy Queen Mine	560 E. Highway 46, La Sal, UT 84535 in San Juan County, Utah latitude 38°18'45" and longitude 109°18'30".
Whirlwind Mine	Gateway, COlorado.

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)

VII. Other Information *(Optional)*

Use the space below to expand upon any of the above questions or to bring to the attention of the reviewer any other information you feel should be considered in establishing permit limitations for the proposed facility. Attach additional sheets if necessary.

See attached sheet.

VIII. CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. Name and Official Title (*type or print*)	B. Phone No.
Toby Wright; Environmental Manager	(970) 231-1160
C. Signature	D. Date Signed
Toby Wright	Sept 17, 2008

EPA Form 3510-2D (Rev. 8-90) PAGE 5 of 5

INTRODUCTION

Uranium One Exploration, Inc. (Uranium One) owns and will be operating the Velvet Mine, which is an underground uranium and vanadium mine. The Mine is located in the Lisbon Valley of San Juan County, Utah (T31S, R25E, Sec.3.), see Figure 1.

An estimated 42,000,000 gallons (129 ac-ft) of ground water have filled the old mine workings. Though dewatered and operated in the 1980's, the reopening of the Velvet Mine makes it a new discharger. Uranium One proposes to resume the historic dewatering program, which consisted pumping the mine water from an existing vent shaft (informally referred to as the lower vent shaft) using a 100 hp submersible pump at a maximum rate of approximately 250 gallons per minute (gpm) or 0.56 cfs for a period of approximately four months. The mine has not had a discharge for approximately 15 years. The Velvet Mine dewatering was permitted under a previous UPDES permit (Permit No. UT-0023914), as recently as 1993.

Planned high rate initial dewatering of the flooded mine workings over the short-term (four to six months at an estimated maximum rate of 250 gpm starting in late 2008) and over the long-term with steady state dewatering to maintain a dry mine (through 2018 at an estimate maximum rate of 25 gpm) will require treatment and surface discharge of these waters. The facility has a Standard Industrial Classification (SIC) code 1094, for Uranium mining.

There will be no water consumption during the initial mine dewatering as all waters will be treated in a closed system and released to the adjacent ephemeral drainage with no evaporative or consumptive losses. Long-term water consumption will be due to use of water in the mining process within the mine. This is estimated to be approximately half of the total water diverted over the long-term on an annual basis, or approximately 20 ac-ft/yr or 200 ac-ft over the 10 year mine life. Therefore, all the initial water diverted from the flooded mine workings (129 ac-ft) and half of the long-term pumping rate (20.5 ac-ft/yr) will be returned to the adjacent ephemeral drainage.

Based on experience from similar uranium mines in the region, the lack of organic material in the host formation (Mossback member of the Chinle Fm.) and the mining process, knowledge of the facilities raw materials, maintenance chemicals, intermediate and final products and analysis of similar effluents (Energy Queen Mine in La Sal Utah) mine waters are not anticipated to have significant biological demand (BOD), chemical oxygen demand (COD), or Ammonia as N. In addition, most metals concentrations are anticipated to be very low based on the measured pH of the mine water and ground water, which has been observed to have a local water pH of approximately 9 (s.u.; see Table 1).

The mine dewatering treatment system for this facility consists of a chemical precipitation process with barium chloride. The intercepted mine water is pumped and mixed with barium chloride and then up to an initial treatment tank where the barium chloride assists in Radium reduction. Table 1 presents analyses of the influent water quality based on sampling of the mine waters through the vent shaft form which mine

waters will be pumped. Table 2 summarizes the water quality from laboratory testing of the mine waters using the proposed barium chloride treatment process. Solid wastes from this treatment process, contained in closed tanks, are anticipated to pass TCLP testing based on testing of similar wastes (see Table 3) and will be disposed of in an off-site licensed landfill. Additional treatment using flocculation may be required to reduce TDS concentrations to appropriate discharge limits.

Tables 4 and 5 present local ground water quality data from two wells located in the project area, one within the ore body (well CL-34T-07A) and one outside the ore body (well V-06-08B). Table 6 presents water level and elevation data for each well and the vent shaft from which mine dewatering pumping will occur. It should be noted that the uppermost aquifer, Bounded by the screened zone of each well) is between 700 feet and 900 feet below the ground surface and is hosted by the same geologic unit as the mineralized zone of the ore body (Mossback member of the Chinle Formation). The potentiometric surface of these wells is several hundred feet above the upper elevation of the aquifer, indicating a confined condition. The great depth of the uppermost aquifer and the evidence of confined hydrologic conditions demonstrate a very high degree of natural geologic isolation from any potential surface impacts from surface discharges.

The ground water quality ranges from Class 1 to Class III depending on the relationship to the ore body. Mine water currently in the workings is typically of a better quality than that seen in the background ground water quality associated with the ore body (compare Table 1 with Table 4). Mine dewatering has historically created a hydrologic sink in the area (cone of depression, which continues today due to the slow rate of mine flooding), this sink will continue throughout the mine life due to ongoing dewatering.

Figure 2 presents the location of the vent shaft (point of diversion) and the treatment system and point of surface discharge (point of return) while Figures 3, 4 and 5 present line drawings and design of the treatment process as well as the physical design to the water treatment trailer.

This facility will not discharge any process wastewater to a sanitary sewer system.

This facility will control and contain all of its storm water and use this water in the mining process. Consequently, there will be no storm water discharge.

DESCRIPTION OF DISCHARGE

Outfall 001; Description of Discharge Point

Located at latitude 38°7'10" and longitude 109°9'23"

Discharges from the Velvet Mine treatment facility are received by an unnamed dry wash, which is classified as 2B and 3D (*Utah Administrative Code (UAC) R317-2-13)*, and sequentially to Dry Wash – Big Indian Wash – Hatch Wash - Kane Creek – and finally to the Colorado River. Consequently, these discharged waters have a remote possibility of contributing to the Colorado River.

Consequently, this discharge is regulated under the requirements of the Colorado River Basin Salinity Control Forum (CRBSCF). Total dissolved solids (TDS) loading is limited by the CRBSCF pursuant to the February 1977 "Policy for Implementation of Colorado River Salinity Standards through the NPDES Permit Program" (Policy). In accordance with the CRBSCF, the effluent will be limited to a maximum discharge of 1.0 ton per day or 366 tons per year.

This facility is not classified as a major or a significant minor facility and waste load analysis does not support a finding of significant impact. Therefore, there is no reasonable potential for toxicity in the Velvet Mine's discharge.

Table 1
Mine Water Influent Water Quality

Velvet Mine - Laboratory Scale Test at Site
Date of Test: July 21, 2008

						Utah Water Quality Standards		
	Dissolved Metals mg/L	Total Metals mg/L	Total Dissolved Solids TDS mg/L	Total Suspended Solids TSS mg/L	Lower Detection Limits mg/L	Daily Max.	Monthly Average	Units
Head Sample			5360	Non Detect	5 / 10	20	30	mg/L TSS
Arsenic	0.00235				0.00200			
Iron	Non Detect				0.200			
Selenium	Non Detect				0.00200	.0.50	mg/L Agr. & Domestic	
Antimony		Non Detect			0.00200			
Arsenic		Non Detect			0.0020			
Beryllium		Non Detect			0.0010			
Cadmium		Non Detect			0.00050			
Chromium		0.0048			0.00220			
Copper		Non Detect			0.010			
Iron		Non Detect			0.020			
lead		Non Detect			0.0020			
Molybdenum		1.5			0.0050			
Mercury		Non Detect			0.00010			
Nickel		Non Detect			0.010			
Silver		Non Detect			0.00020			
Thallium		Non Detect			0.0010			
Zinc		0.0097			0.0050	1.0	0.5	mg/L dissolved
Uranium (ug/L) (T)		22			0.7	4.0	2.0	mg/L
Uranium (pCi/L) (T)		15			0.5			
			Accuracy					
Radium-226 (pCi/L)(T)		2.2	(+/-0.7)		0.1 pCi/L	30.0	10.0	pCi/L
Radium-226 (pCi/L)(D)	0.7		(+/-0.4)		0.1 pCi/L			
Gross Alpha pCi/L (T)		27	(+/-5)		3.3 pCi/L	15.0		pCi/L
Gross Alpha pCi/L (T)**		12	(+/-5)		3.3 pCi/L	4.0		mrem/yr.
Gross Beta pCi/L (T)		5.8	(+/-5.1)		5.0 pCi/L			

(T) = total
(D) = Dissolved
(T)** =Less Radon & Uranium
Uranium results reported assumes natural activity of U = 6.77x 10-7 Ci/gm

Table 2
BaCl Test Results

	Dissolved Metals mg/L	Total Metals mg/L	Total Dissolved Solids TDS mg/L	Total Suspended Solids TSS mg/L	Lower Detection Limits mg/L	Utah Water Quality Standards Daily Max.	Monthly Average	Units
Test # 1			5360	25.5	5 / 10	20	30	mg/L TSS
Arsenic	Non Detect				0.00200			
Iron	Non Detect				0.200			
Selenium	Non Detect				0.00200	.0.50		mg/L Agr. & Dome:
Antimony		Non Detect			0.00200			
Arsenic		Non Detect			0.0020			
Beryllium		Non Detect			0.0010			
Cadmium		Non Detect			0.00050			
Chromium		Non Detect			0.00220			
Copper		Non Detect			0.010			
Iron		Non Detect			0.020			
lead		Non Detect			0.0020			
Molybdenum		1.58			0.0050			
Mercury		Non Detect			0.00010			
Nickel		Non Detect			0.010			
Silver		Non Detect			0.00020			
Thallium		Non Detect			0.0010			
Zinc		0.0329			0.0050	1.0	0.5	mg/L dissolved
Uranium (ug/L) (T)		15			0.7	4.0	2.0	mg/L
Uranium (pCi/L) (T)		10			0.5			
			Accuracy					
Radium-226 (pCi/L)(T)		1	(+/-0.5)		0.2 pCi/L	30.0	10.0	pCi/L
Radium-226 (pCi/L)(D)	0.5		(+/-0.3)		0.1 pCi/L			
Gross Alpha pCi/L (T)		18	(+/-5)		3.3 pCi/L	15.0		pCi/L
Gross Alpha pCi/L (T)**		8	(+/-5)		3.3 pCi/L	4.0		mrem/yr.
Gross Beta pCi/L (T)		14	(+/-5)		5.0 pCi/L			

(T) = total
(D) = Dissolved
(T)** =Less Radon & Uranium
Uranium results reported assumes natural activity of U = 6.77x 10-7 Ci/gm

Table 3

Testing of Treatment Sludge (Energy Queen Mine)

ENERGY LABORATORIES, INC. * 2393 Salt Creek Highway (82601) * PO Box 3258 * Casper, WY 82602

LABORATORY ANALYTICAL REPORT

Client: Energy Fuels Resources Corporation
Project: Energy Queen
Lab ID: C07030454-001
Client Sample ID: EQ-Pond

Report Date: 04/04/07
Collection Date: 03/07/07 13:15
DateReceived: 03/09/07
Matrix: Sludge

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Filterable	Yes					SW1311	03/12/07 14:44 / dcj
METALS - TCLP							
Arsenic	ND	mg/L		0.50	5	SW6010B	03/15/07 16:58 / cp
Barium	ND	mg/L		10	100	SW6010B	03/15/07 16:58 / cp
Cadmium	ND	mg/L		0.10	1	SW6010B	03/15/07 16:58 / cp
Chromium	ND	mg/L		0.50	5	SW6010B	03/15/07 16:58 / cp
Lead	ND	mg/L		0.50	5	SW6010B	03/15/07 16:58 / cp
Mercury	ND	mg/L		0.002	0.2	SW7470A	03/21/07 14:35 / kes
Selenium	ND	mg/L		0.10	1	SW6010B	03/15/07 16:58 / cp
Silver	ND	mg/L		0.50	5	SW6010B	03/15/07 16:58 / cp
RADIONUCLIDES - TOTAL							
Radium 226	2.1	pCi/g dry		0.1		E903.0	04/02/07 06:22 / trs
Radium 226 precision (±)	0.2	pCi/g-dry				E903.0	04/02/07 06:22 / trs
Radium 228	ND	pCi/g-dry		0.1		RA-05	03/26/07 12:39 / pj
Uranium	25.2	mg/kg-dry	D	0.03		SW6020	03/16/07 21:40 / bas
Uranium Activity	17.1	pCi/g dry	D	0.02		SW6020	03/16/07 21:40 / bas

Report Definitions:
RL - Analyte reporting limit
QCL - Quality control limit
D - RL increased due to sample matrix interference
MCL - Maximum contaminant level
ND - Not detected at the reporting limit

Table 4 Ground Water Well Water Quality Data

ENERGY LABORATORIES, INC. • 2393 Salt Creek Highway (82601) • P.O. Box 3258 • Casper, WY 82602
Toll Free 888.235.0515 • 307.235.0515 • Fax 307.234.1639 • casper@energylab.com • www.energylab.com

LABORATORY ANALYTICAL REPORT

Client: Uranium One USA
Project: Velvet Mine
Lab ID: C08080307-001
Client Sample ID: CL-34T-07A

Report Date: 09/22/08
Collection Date: 08/05/08 14:20
DateReceived: 08/07/08
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Alkalinity, Total as CaCO3	370	mg/L		1.0		A2320 B	08/08/08 17:08 / ljl
Carbonate as CO3	36	mg/L		1.0		A2320 B	08/08/08 17:08 / ljl
Bicarbonate as HCO3	380	mg/L		1.0		A2320 B	08/08/08 17:08 / ljl
Hydroxide as OH	ND	mg/L		1.0		A2320 B	08/08/08 17:08 / ljl
Calcium	5.2	mg/L		0.5		E200.7	08/26/08 15:33 / cp
Chloride	53	mg/L		1		A4500-Cl B	08/11/08 08:37 / sp
Fluoride	1.3	mg/L		0.1		A4500-F C	08/08/08 13:54 / ljl
Magnesium	0.9	mg/L		0.5		E200.7	08/26/08 15:33 / cp
Nitrogen, Ammonia as N	0.40	mg/L		0.05		A4500-NH3 G	08/12/08 12:51 / jal
Nitrogen, Nitrate as N	ND	mg/L		0.1		E353.2	08/14/08 09:33 / sec
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.1		E353.2	08/13/08 09:52 / jal
Nitrogen, Nitrite as N	ND	mg/L		0.1		A4500-NO2 B	08/07/08 17:03 / sp
Potassium	3.6	mg/L		0.5		E200.7	08/26/08 15:33 / cp
Sodium	302	mg/L	D	2		E200.7	08/26/08 15:33 / cp
Sulfate	196	mg/L	D	6		A4500-SO4 E	08/18/08 16:58 / jal
NON-METALS							
Phosphorus, Total as P	0.04	mg/L		0.01		E365.1	08/15/08 12:11 / eli-h
Sulfide	ND	mg/L		1		A4500-S F	08/11/08 11:13 / jp
PHYSICAL PROPERTIES							
Conductivity	1230	umhos/cm		1		A2510 B	08/15/08 09:15 / jah
Hardness as CaCO3	17	mg/L		1		A2340 B	08/26/08 15:33 / sdw
Oxygen Demand, Chemical (COD)	45	mg/L		1		HACH 8000	08/12/08 14:39 / jal
pH	8.98	s.u.		0.01		A4500-H B	08/08/08 10:25 / jah
Solids, Total Dissolved TDS @ 180 C	798	mg/L		10		A2540 C	08/08/08 10:14 / dd
Solids, Total Suspended TSS @ 105 C	53	mg/L		1		A2540 D	08/11/08 12:28 / jah
METALS - DISSOLVED							
Aluminum	0.1	mg/L		0.1		E200.8	08/25/08 17:25 / sml
Antimony	ND	mg/L		0.05		E200.8	08/13/08 22:29 / ts
Arsenic	0.012	mg/L		0.003		E200.8	08/13/08 22:29 / ts
Barium	ND	mg/L		0.1		E200.8	08/13/08 22:29 / ts
Beryllium	ND	mg/L		0.01		E200.8	08/13/08 22:29 / ts
Boron	0.4	mg/L		0.1		E200.7	08/26/08 15:33 / cp
Cadmium	ND	mg/L		0.001		E200.8	08/13/08 22:29 / ts
Chromium	0.01	mg/L		0.01		E200.8	08/13/08 22:29 / ts
Cobalt	ND	mg/L		0.01		E200.8	08/13/08 22:29 / ts
Copper	ND	mg/L		0.01		E200.8	08/13/08 22:29 / ts
Iron	0.058	mg/L		0.009		E200.7	08/26/08 15:33 / cp
Lead	ND	mg/L		0.002		E200.8	08/13/08 22:29 / ts
Lithium	0.106	mg/L		0.0003		E200.7	08/26/08 15:33 / cp
Manganese	0.01	mg/L		0.01		E200.8	08/13/08 22:29 / ts

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix interference.

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LABORATORY ANALYTICAL REPORT

Client: Uranium One USA
Project: Velvet Mine
Lab ID: C08080307-001
Client Sample ID: CL-34T-07A

Report Date: 09/22/08
Collection Date: 08/05/08 14:20
DateReceived: 08/07/08
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS - DISSOLVED							
Mercury	ND	mg/L		0.001		E200.8	08/13/08 22:29 / ts
Molybdenum	0.096	mg/L		0.005		E200.8	08/13/08 22:29 / ts
Nickel	ND	mg/L		0.05		E200.8	08/13/08 22:29 / ts
Selenium	ND	mg/L		0.005		E200.8	08/13/08 22:29 / ts
Silver	ND	mg/L		0.005		E200.8	08/21/08 07:17 / sml
Thallium	ND	mg/L		0.05		E200.8	08/13/08 22:29 / ts
Uranium	18.2	mg/L		0.0003		E200.8	08/13/08 22:29 / ts
Vanadium	0.2	mg/L		0.1		E200.8	08/13/08 22:29 / ts
Zinc	ND	mg/L		0.01		E200.8	08/13/08 22:29 / ts
RADIONUCLIDES - DISSOLVED							
Radium 226	5.1	pCi/L				E903.0	08/29/08 22:08 / trs
Radium 226 precision (±)	0.50	pCi/L				E903.0	08/29/08 22:08 / trs
Radium 226 MDC	0.25	pCi/L				E903.0	08/29/08 22:08 / trs
RADIONUCLIDES - TOTAL							
Gross Alpha	18700	pCi/L				E900.0	09/05/08 11:49 / crw
Gross Alpha precision (±)	84.8	pCi/L				E900.0	09/05/08 11:49 / crw
Gross Alpha MDC	3.1	pCi/L				E900.0	09/05/08 11:49 / crw
Gross Beta	5590	pCi/L				E900.0	09/05/08 11:49 / crw
Gross Beta precision (±)	22.9	pCi/L				E900.0	09/05/08 11:49 / crw
Gross Beta MDC	4.1	pCi/L				E900.0	09/05/08 11:49 / crw
Radium 226	14	pCi/L				E903.0	09/08/08 13:21 / trs
Radium 226 precision (±)	0.80	pCi/L				E903.0	09/08/08 13:21 / trs
Radium 226 MDC	0.23	pCi/L				E903.0	09/08/08 13:21 / trs
Radium 228	0.63	pCi/L	U			RA-05	09/02/08 10:22 / plj
Radium 228 precision (±)	0.64	pCi/L				RA-05	09/02/08 10:22 / plj
Radium 228 MDC	1.0	pCi/L				RA-05	09/02/08 10:22 / plj
Thorium 230	0.4	pCi/L		0.2		E907.0	09/02/08 14:30 / dmf
Thorium 230 precision (±)	0.4	pCi/L				E907.0	09/02/08 14:30 / dmf
Thorium 232	0.2	pCi/L		0.2		E907.0	09/02/08 14:30 / dmf
Thorium 232 precision (±)	0.2	pCi/L				E907.0	09/02/08 14:30 / dmf
DATA QUALITY							
A/C Balance (± 5)	1.97	%				Calculation	08/28/08 14:54 / sdw
Anions	13.1	meq/L				Calculation	08/28/08 14:54 / sdw
Cations	13.6	meq/L				Calculation	08/28/08 14:54 / sdw
Solids, Total Dissolved Calculated	787	mg/L				Calculation	08/28/08 14:54 / sdw
TDS Balance (0.80 - 1.20)	1.01					Calculation	08/28/08 14:54 / sdw
ORGANIC CHARACTERISTICS							
Oil & Grease (HEM)	6.5	mg/L		5.0	10	E1664A	08/11/08 09:33 / cjs

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

Table 5 Ground Water Well Water Quality Data

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Toll Free 888.235.0515 • 307.235.0515 • Fax 307.234.1639 • casper@energylab.com • www.energylab.com

LABORATORY ANALYTICAL REPORT

Client: Uranium One USA
Project: Velvet Mine
Lab ID: C08080307-002
Client Sample ID: V-06-08B

Report Date: 09/22/08
Collection Date: 08/05/08 17:25
DateReceived: 08/07/08
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Alkalinity, Total as CaCO3	180	mg/L		1.0		A2320 B	08/08/08 17:16 / ljl
Carbonate as CO3	8.6	mg/L		1.0		A2320 B	08/08/08 17:16 / ljl
Bicarbonate as HCO3	210	mg/L		1.0		A2320 B	08/08/08 17:16 / ljl
Hydroxide as OH	ND	mg/L		1.0		A2320 B	08/08/08 17:16 / ljl
Calcium	4.2	mg/L		0.5		E200.7	08/26/08 15:37 / cp
Chloride	7	mg/L		1		A4500-Cl B	08/11/08 08:39 / sp
Fluoride	0.2	mg/L		0.1		A4500-F C	08/08/08 13:58 / ljl
Magnesium	1.9	mg/L		0.5		E200.7	08/26/08 15:37 / cp
Nitrogen, Ammonia as N	0.34	mg/L		0.05		A4500-NH3 G	08/12/08 12:59 / jal
Nitrogen, Nitrate as N	0.6	mg/L		0.1		E353.2	08/14/08 09:33 / sec
Nitrogen, Nitrate+Nitrite as N	0.6	mg/L		0.1		E353.2	08/13/08 09:54 / jal
Nitrogen, Nitrite as N	ND	mg/L		0.1		A4500-NO2 B	08/07/08 17:04 / sp
Potassium	3.1	mg/L		0.5		E200.7	08/26/08 15:37 / cp
Sodium	87.2	mg/L	D	0.8		E200.7	08/26/08 15:37 / cp
Sulfate	19	mg/L		1		A4500-SO4 E	08/11/08 13:50 / sp
NON-METALS							
Phosphorus, Total as P	0.12	mg/L		0.01		E365.1	08/15/08 12:12 / eli-h
Sulfide	ND	mg/L		1		A4500-S F	08/11/08 11:15 / jp
PHYSICAL PROPERTIES							
Conductivity	384	umhos/cm		1		A2510 B	08/15/08 09:17 / jah
Hardness as CaCO3	18	mg/L		1		A2340 B	08/26/08 15:37 / sdw
Oxygen Demand, Chemical (COD)	75	mg/L		1		HACH 8000	08/12/08 14:40 / jal
pH	8.61	s.u.		0.01		A4500-H B	08/08/08 10:30 / jah
Solids, Total Dissolved TDS @ 180 C	234	mg/L		10		A2540 C	08/08/08 10:14 / dd
Solids, Total Suspended TSS @ 105 C	113	mg/L		1		A2540 D	08/11/08 12:28 / jah
METALS - DISSOLVED							
Aluminum	ND	mg/L		0.1		E200.8	08/21/08 07:24 / sml
Antimony	ND	mg/L		0.05		E200.8	08/13/08 22:35 / ts
Arsenic	ND	mg/L		0.003		E200.8	08/13/08 22:35 / ts
Barium	ND	mg/L		0.1		E200.8	08/13/08 22:35 / ts
Beryllium	ND	mg/L		0.01		E200.8	08/13/08 22:35 / ts
Boron	ND	mg/L		0.1		E200.7	08/26/08 15:37 / cp
Cadmium	ND	mg/L		0.001		E200.8	08/13/08 22:35 / ts
Chromium	ND	mg/L		0.01		E200.8	08/13/08 22:35 / ts
Cobalt	ND	mg/L		0.01		E200.8	08/13/08 22:35 / ts
Copper	ND	mg/L		0.01		E200.8	08/13/08 22:35 / ts
Iron	0.036	mg/L		0.005		E200.7	08/26/08 15:37 / cp
Lead	ND	mg/L		0.002		E200.8	08/13/08 22:35 / ts
Lithium	0.0276	mg/L		0.0002		E200.7	08/26/08 15:37 / cp
Manganese	ND	mg/L		0.01		E200.8	08/13/08 22:35 / ts

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix interference.

Table 5 Ground Water Well Water Quality Data (continued)

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LABORATORY ANALYTICAL REPORT

Client: Uranium One USA
Project: Velvet Mine
Lab ID: C08080307-002
Client Sample ID: V-06-08B

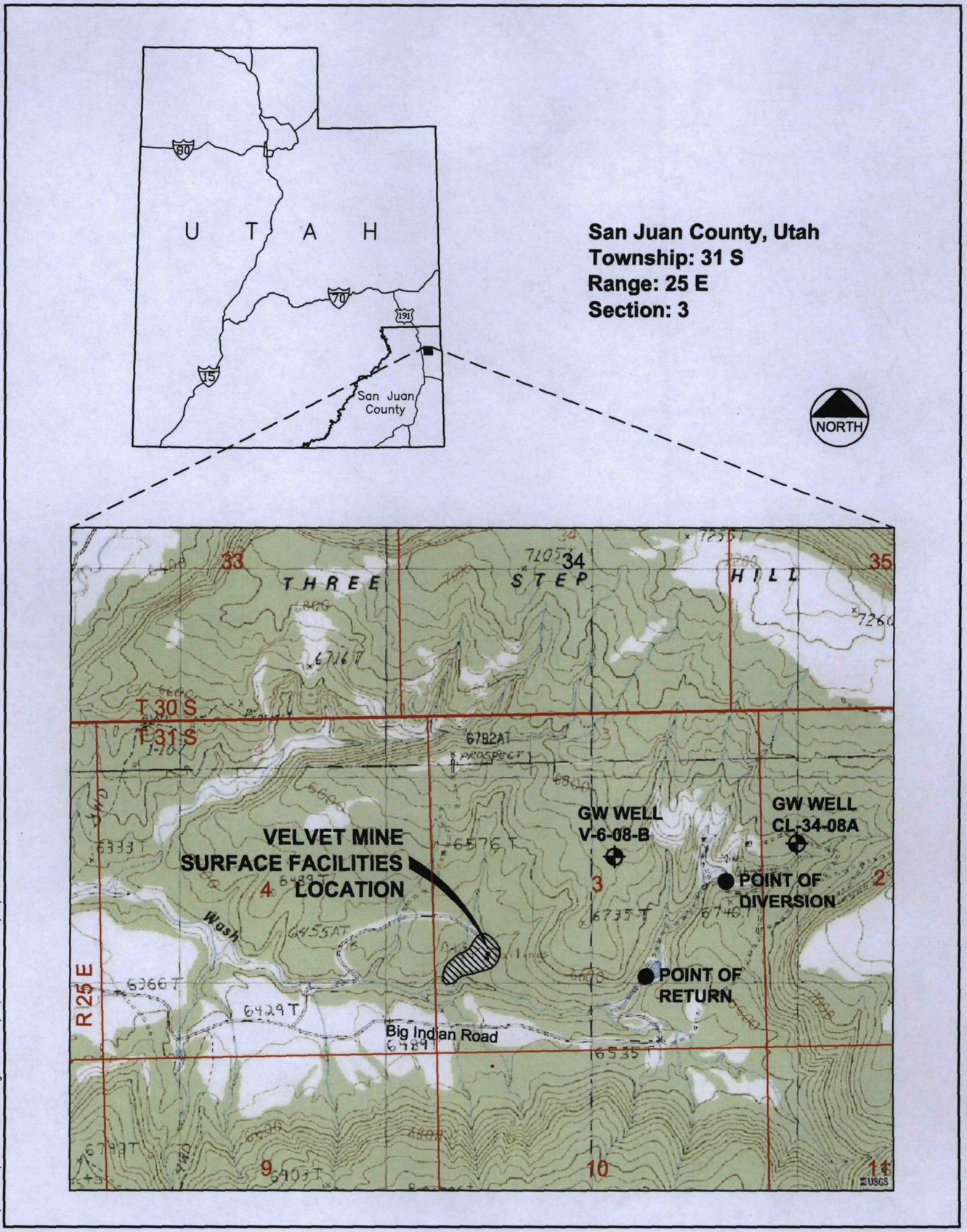
Report Date: 09/22/08
Collection Date: 08/05/08 17:25
DateReceived: 08/07/08
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS - DISSOLVED							
Mercury	ND	mg/L		0.001		E200.8	08/13/08 22:35 / ts
Molybdenum	ND	mg/L		0.005		E200.8	08/13/08 22:35 / ts
Nickel	ND	mg/L		0.05		E200.8	08/13/08 22:35 / ts
Selenium	ND	mg/L		0.005		E200.8	08/13/08 22:35 / ts
Silver	ND	mg/L		0.005		E200.8	08/21/08 07:24 / sml
Thallium	ND	mg/L		0.05		E200.8	08/13/08 22:35 / ts
Uranium	0.0084	mg/L		0.0003		E200.8	08/13/08 22:35 / ts
Vanadium	ND	mg/L		0.1		E200.8	08/13/08 22:35 / ts
Zinc	ND	mg/L		0.01		E200.8	08/13/08 22:35 / ts
RADIONUCLIDES - DISSOLVED							
Radium 226	0.01	pCi/L	U			E903.0	08/29/08 22:08 / trs
Radium 226 precision (±)	0.11	pCi/L				E903.0	08/29/08 22:08 / trs
Radium 226 MDC	0.19	pCi/L				E903.0	08/29/08 22:08 / trs
RADIONUCLIDES - TOTAL							
Gross Alpha	4.3	pCi/L				E900.0	09/05/08 11:49 / crw
Gross Alpha precision (±)	1.1	pCi/L				E900.0	09/05/08 11:49 / crw
Gross Alpha MDC	1.2	pCi/L				E900.0	09/05/08 11:49 / crw
Gross Beta	1.4	pCi/L	U			E900.0	09/05/08 11:49 / crw
Gross Beta precision (±)	1.4	pCi/L				E900.0	09/05/08 11:49 / crw
Gross Beta MDC	2.4	pCi/L				E900.0	09/05/08 11:49 / crw
Radium 226	0.24	pCi/L	U			E903.0	09/08/08 11:02 / trs
Radium 226 precision (±)	0.20	pCi/L				E903.0	09/08/08 11:02 / trs
Radium 226 MDC	0.29	pCi/L				E903.0	09/08/08 11:02 / trs
Radium 228	0.91	pCi/L	U			RA-05	09/02/08 14:31 / plj
Radium 228 precision (±)	0.69	pCi/L				RA-05	09/02/08 14:31 / plj
Radium 228 MDC	1.1	pCi/L				RA-05	09/02/08 14:31 / plj
Thorium 230	-0.1	pCi/L	U	0.2		E907.0	09/02/08 14:30 / dmf
Thorium 230 precision (±)	0.2	pCi/L				E907.0	09/02/08 14:30 / dmf
Thorium 232	0.0	pCi/L	U	0.2		E907.0	09/02/08 14:30 / dmf
Thorium 232 precision (±)	0.2	pCi/L				E907.0	09/02/08 14:30 / dmf
- See Case Narrative regarding Ra226 analysis.							
DATA QUALITY							
A/C Balance (± 5)	-0.522	%				Calculation	08/28/08 14:56 / sdw
Anions	4.31	meq/L				Calculation	08/28/08 14:56 / sdw
Cations	4.27	meq/L				Calculation	08/28/08 14:56 / sdw
Solids, Total Dissolved Calculated	240	mg/L				Calculation	08/28/08 14:56 / sdw
TDS Balance (0.80 - 1.20)	0.980					Calculation	08/28/08 14:56 / sdw
ORGANIC CHARACTERISTICS							
Oil & Grease (HEM)	7.8	mg/L		5.0	10	E1664A	08/11/08 14:46 / cjs

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

Table 6 Velvet Mine Well and Ground Water Elevation Data

Monitor Well ID	Coordinate N	Coodinate E	Collar Elevation (ft msl)	Total Depth (ft)	Screened Interval (ft bgs)	Screened Interval (ft msl)	Depth to Water (ft bgs)	Groundwater Elevation (ft msl)	Water level Measurement Date
Well CL-34T08A	661107.656	4220543.658	6649.20	840	736 to 836	5913.2 to 5813.2	395	6254.2	8/5/2008
Well V-06-08A	661957.071	4220599.142	6648.13	980	880 to 980	5768.1 to 5668.1	433	6215.1	8/5/2008
Lower 3 ft Vent Shaft	661662.571	4220490.609	6552.02	778	NA	NA	395	6157.02	7/15/2008



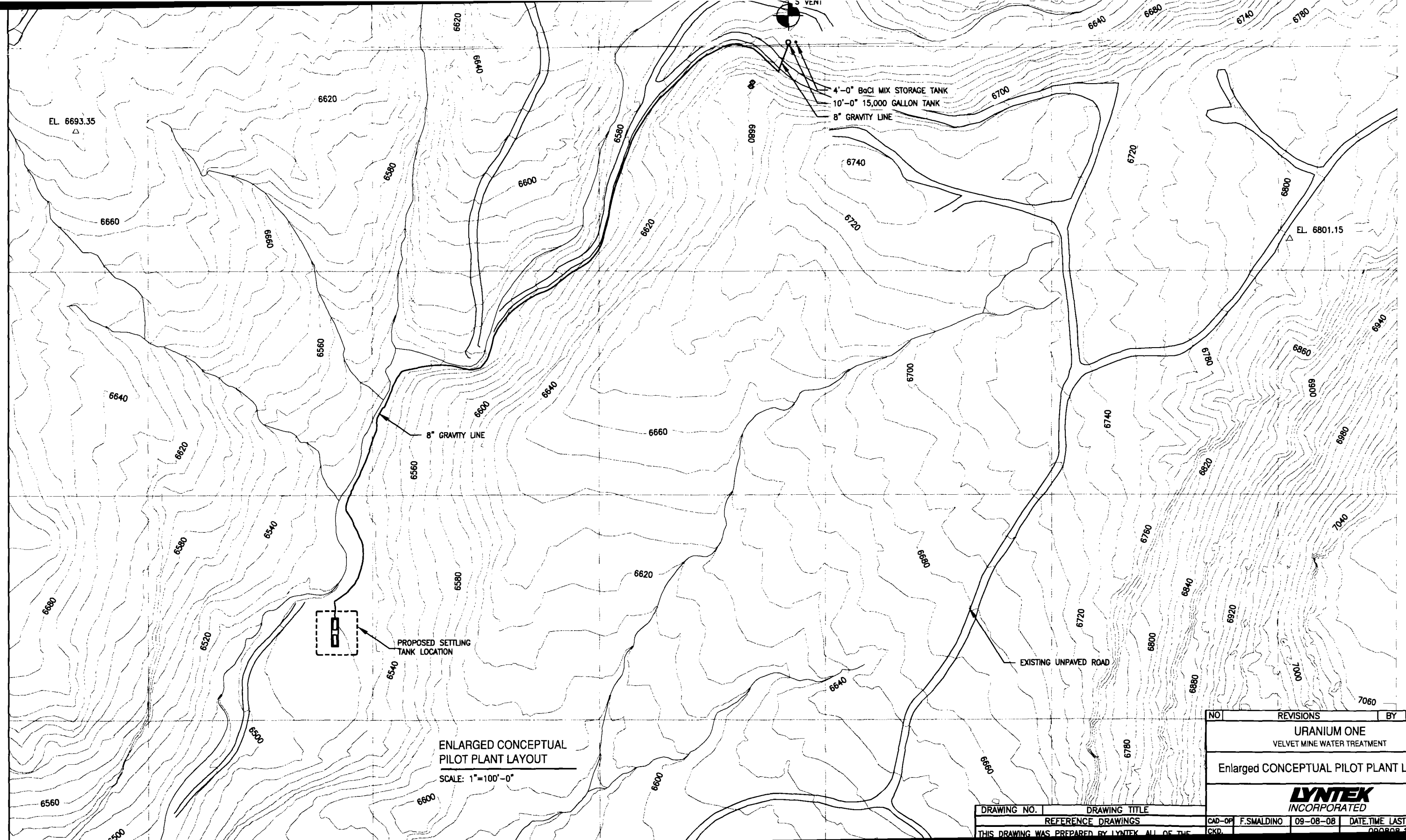
E:\181766\LOCATION-01.dwg SAVED:9/16/08 PRINTED:9/19/08 BY: TOM.BOEHLER

Project No. 181766

September 2008

Figure 1
Site Location Map
Velvet Mine Uranium Project

uraniumone



NO	REVISIONS	BY	DATE

URANIUM ONE
VELVET MINE WATER TREATMENT

Enlarged CONCEPTUAL PILOT PLANT LAYOUT

LYNTEK INCORPORATED

DRAWING NO.	DRAWING TITLE
REFERENCE DRAWINGS	

THIS DRAWING WAS PREPARED BY LYNTEK ALL OF THE

CAD-OP	F.SMALDINO	09-08-08	DATE.TIME LAST MODIFIED
CKD.			09/08/08 14:09

SECONDARY LINER CONTAINMENT SYNTHETIC

NO	REVISIONS	BY	DATE

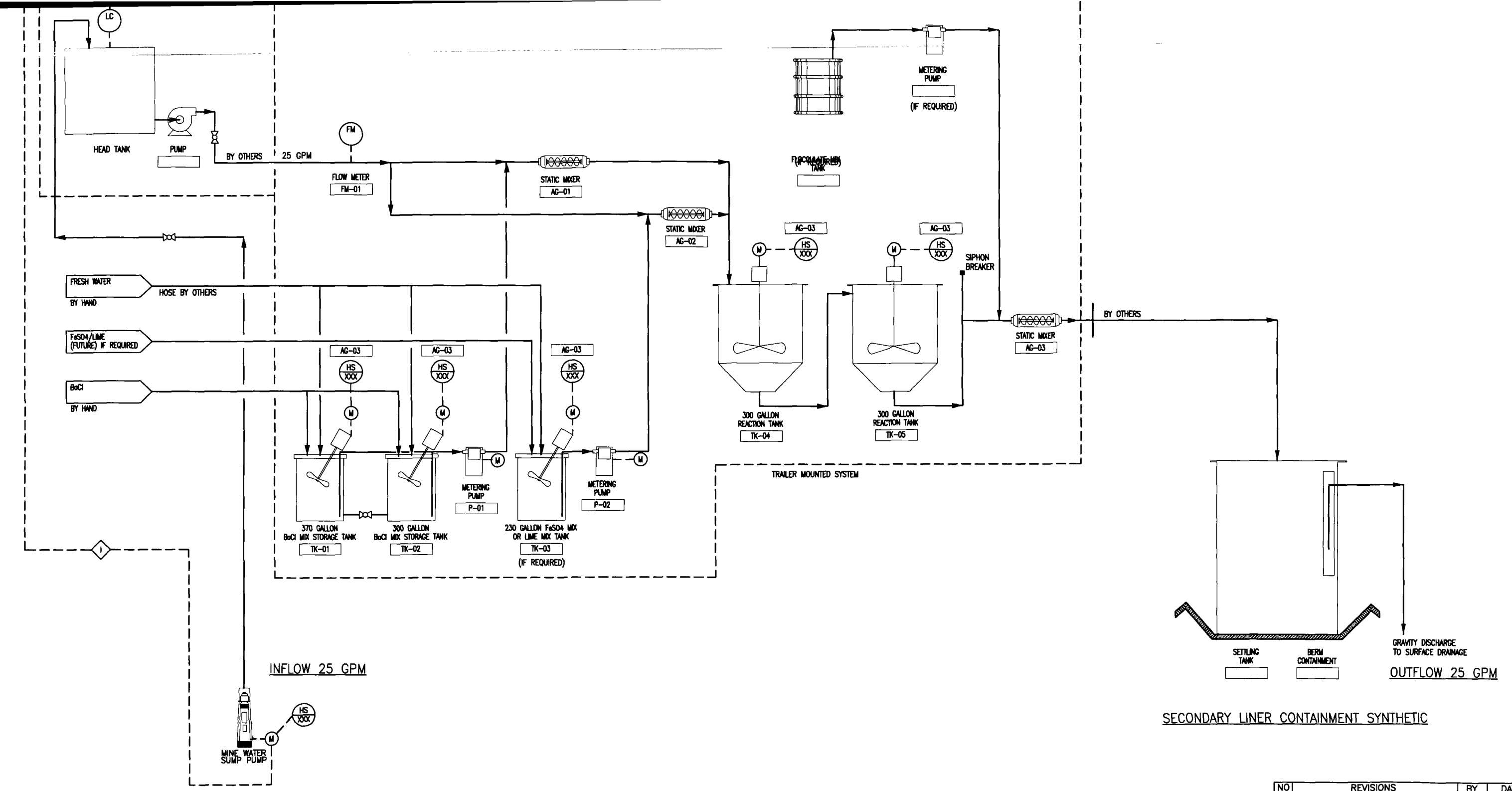
URANIUM ONE
VELVET MINE WATER TREATMENT

TYPICAL FLOW DIAGRAM
250 GPM PILOT PLANT

LYNTEK INCORPORATED

DRAWING NO.

DRAWING TITLE



NO	REVISIONS	BY	DATE

URANIUM ONE
VELVET MINE WATER TREATMENT

TYPICAL FLOW DIAGRAM
PERMANENT WATER TREATMENT - 25 GPM

LYNTEK INCORPORATED

DRAWING NO.	DRAWING TITLE

NO	REVISIONS	BY	DATE

URANIUM ONE
VELVET MINE WATER TREATMENT

TRAILER LAYOUT - 25 GPM

LYNTEK INCORPORATED

DRAWING NO.

DRAWING TITLE

PLAN
SCALE: 1/2"=1'-0"

ELEVATION
SCALE: 1/2"=1'-0"

SECONDARY LINER CONTAINMENT SYNTHETIC