

# CROW BUTTE RESOURCES, INC.

86 Crow Butte Road  
P.O. Box 169  
Crawford, Nebraska 69339-0169



(308) 665-2215  
(308) 665-2341 – FAX

September 22, 2000

U.S. Nuclear Regulatory Commission  
Attention: Mr. Philip Ting, Chief  
Fuel Cycle Licensing Branch  
Division of Fuel Cycle Safety and Safeguards  
Office of Nuclear Material Safety and Safeguards  
Mail Stop T8A-33  
Washington, D.C. 20555-0001

Re: Source Materials License SUA-1534  
Docket No. 40-8943  
Evaporation Pond 3 Liner Leak

Dear Mr. Ting:

On August 24, 2000 during routine evaporation pond monitoring of Crow Butte Resources, Inc. (CBR) Evaporation Pond 3, conductivity readings from the middle south underdrain indicated a potential pond liner leak. The potential liner leak was indicated by an increase in the conductivity readings from a previous reading of 2,484  $\mu\text{mho/cm}$  to 32,500  $\mu\text{mho/cm}$ . There was no increase in the water level in the underdrain. Although the conductivity reading did not indicate that the water was degraded beyond the action level of 50 percent of the pond contents conductivity (101,200  $\mu\text{mho/cm}$ ), CBR collected and analyzed a sample of the underdrain contents for chloride, alkalinity, conductivity, sodium, and sulfate. The results of this sample indicated that the concentrations of the indicator parameters in the underdrain had increased significantly but had not reached the action level.

Based upon these analytical results, it was determined that a liner leak potentially existed in the south middle section of Pond 3. A visual inspection of the liner was performed on August 24 and 25. Two liner punctures were located near the top of the south embankment, well above the water level in the pond. In addition, a long scratch that had been patched with a weld bead was located near the middle underdrain. The welded repair had questionable integrity. Based upon this, CBR determined that a liner leak had been verified and that reporting was required in accordance with License Condition 11.4.

Mr. Fangie Jones of the NRC Operations Center was notified by telephone at 1031 MDT on August 25, 2000 of the liner leak. As required by License Condition 12.3, this report is submitted within 30 days of discovery of a liner leak and discusses analytical data, mitigative actions, and the results of those actions.

*Rec'd at DCS  
from Bill Jod  
10/4/00.  
NMSSO/Public*



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Upon confirmation of the liner leak on August 25, CBR performed a complete inspection of the liner on the south embankment of the pond with an emphasis on the water line in the pond. The inspection did not locate any additional visual indication of potential sources of leakage. Several areas where the liner had indications of abrasion were vacuum tested, but did not indicate liner failure. The water level on August 25 (8 feet 10 inches) was well below the suspected source of the leak. CBR believes that the higher level in the pond during July 2000 (approximately 9 feet 6 inches) and wave action due to strong winds was the probable cause of the elevated reading in the south middle underdrain. In addition, a conductivity sample taken after pumping the south middle underdrain on August 24 was 21,500  $\mu\text{mho/cm}$ , indicating the leak was not introducing pond water into the underdrain at that time. Based upon these results, CBR did not lower the water level in Pond 3 any further by transferring the contents to another pond.

CBR personnel repaired the liner leaks on September 6 and 8, 2000. Patches of 60-mil high-density polyethylene (HDPE) were welded over the two small punctures located on the top of the south embankment. A large patch of similar material was welded over the long scratch that had previously been repaired with weld bead. Flushing and pumping of the south middle underdrain was begun after repairs were completed.

Upon confirmation of the liner leak, CBR began weekly sampling of the south middle underdrain with analysis for alkalinity, chloride, sodium, conductivity, and sulfate. Attachment 1 contains copies of the Weekly Evaporation Pond Underdrain Analysis forms and the analytical results from the CBR laboratory. Samples were obtained on August 30 and September 6, 13, and 20, 2000.

In addition to weekly analysis for the underdrain, CBR obtained a non-routine sample from pond monitor wells CPM-1 and CPM-2. CPM-1 and CPM-2 are completed in the first aquifer and are located downgradient of Pond 3 at the fenced restricted area boundary. The sample was obtained on August 28 and analyzed for the indicator parameters to ensure that there was no indication of leakage in the secondary liner. Analytical results were consistent with historical sampling results and are contained in Attachment 2.

As required in the CBR Evaporation Pond Onsite Inspection Program (CBR, February 1996), the measurement frequency of the water levels in the south middle underdrain was increased to daily. Attachment 3 contains copies of the Commercial Pond Inspection Forms for the period of August 20 to September 16, 2000. Pumping immediately following the discovery of the leak lowered the water level in the underdrain. The underdrain level has remained constant since that time.

CBR is currently flushing and pumping the south middle underdrain to ensure that all leaks have been repaired and that the underdrain will effectively detect any future leaks. Daily underdrain level

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measurement and weekly analysis of the underdrain contents will be continued until CBR is sure that all leaks have been located and repaired. At that time, a final report will be submitted with the results of the mitigative actions.

If you have any questions or require any further information, please do not hesitate to call me at (308) 665-2215.

Sincerely,  
CROW BUTTE RESOURCES, INC.

A handwritten signature in black ink, appearing to read 'M. Griffin', written over the printed name and title.

Michael Griffin  
Manager of Environmental and Regulatory Affairs

Attachments: As Stated

cc: Mr. Steve Collings - CBR, Denver  
Mr. William Ford – USNRC, Uranium Recovery Branch



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**Attachment 1**

**Pond 3 Underdrain Analysis**

**CROW BUTTE PROJECT  
WEEKLY EVAPORATION POND UNDERDRAIN ANALYSIS**

COMMERCIAL PONDS		UNDERDRAIN WATER DEPTH-INCHES	INSTRUMENT READING	TEMPERATURE °C	TEMPERATURE CORRECTION	CONDUCTIVITY umhos/cm	LAB MEASUREMENT
NORTH POND 1	POND CONTENTS	8' 2"					86700
	N.E. UNDERDRAIN	1"					
	N.M. UNDERDRAIN	1"					
	N.W. UNDERDRAIN	3"					
	S.E. UNDERDRAIN	1"					
	S.M. UNDERDRAIN	1"					
	S.W. UNDERDRAIN	2"	15900	19	1.13	16950	16610
SOUTH POND 3	POND CONTENTS	8' 9"					101200
	N.E. UNDERDRAIN	6"	550	19°	1.13	622	
	N.M. UNDERDRAIN	9"	800	19°	1.13	904	
	N.W. UNDERDRAIN	3"					
	S.E. UNDERDRAIN	1"					
	S.M. UNDERDRAIN	6"	19000	18°	1.15	21850	32500
	S.W. UNDERDRAIN	10"	800	20°	1.11	888	
POND NUMBER 4	POND CONTENTS	5' 7"					126600
	N.E. UNDERDRAIN	7"	5000 1900	21°	1.08	5400 2052	11694
	N.M. UNDERDRAIN	14"	2300	20°	1.11	2553	
	N.W. UNDERDRAIN	7"	23000	21°	1.08	24840	25100
	S.E. UNDERDRAIN	16"	13000	20°	1.11	14430	
	S.M. UNDERDRAIN	9"	2000	20	1.11	2220	
	S.W. UNDERDRAIN	6"	4700	20°	1.11	5217	

DATE: 8 23 00

REMARKS: Water too to Measure

ACTION LIMIT EXCEEDED? \_\_\_\_\_

SAMPLER/ANALYST: LH

23-Aug-00  
SM/LG

	<u>Alk</u>	<u>Cl</u>	<u>Cond</u>	<u>SO<sub>4</sub></u>	<u>Na</u>
	mg/l.	mg/l.	cmhos	mg/l.	mg/l.
<b>Pond #3</b>	688	10,381	32,500	1,533	7,399
<b>SM Underdrain</b>					

**CROW BUTTE PROJECT  
WEEKLY EVAPORATION POND UNDERDRAIN ANALYSIS**

COMMERCIAL PONDS		UNDERDRAIN WATER DEPTH-INCHES	INSTRUMENT READING	TEMPERATURE °C	TEMPERATURE CORRECTION	CONDUCTIVITY umhos/cm	LAB MEASUREMENT
N O R T H  P O N D  1	POND CONTENTS	8' 2"					95,600
	N.E. UNDERDRAIN	2"					
	N.M. UNDERDRAIN	2"					
	N.W. UNDERDRAIN	4"					
	S.E. UNDERDRAIN	0"					
	S.M. UNDERDRAIN	0"					
	S.W. UNDERDRAIN	0.3"	12000	21°	1.08	12960	19360
S O U T H  P O N D  3	POND CONTENTS	8' 7"					91,700
	N.E. UNDERDRAIN	7"	500	18°	1.15	575	
	N.M. UNDERDRAIN	9"	800	20°	1.11	888	
	N.W. UNDERDRAIN	3"					
	S.E. UNDERDRAIN	1"					
	S.M. UNDERDRAIN	5"	14000	20°	1.11	15540	27900
	S.W. UNDERDRAIN	9"	700	21°	1.08	756	
P O N D  N U M B E R  4	POND CONTENTS	5' 5"					132,400
	N.E. UNDERDRAIN	6"	3100	21°	1.08	3348	2260
	N.M. UNDERDRAIN	15"	2300	22°	1.06	2438	
	N.W. UNDERDRAIN	9"	22000	21°	1.08	23760	24800
	S.E. UNDERDRAIN	17"	13000	19°	1.13	14690	
	S.M. UNDERDRAIN	9"	200	21°	1.08	2268	
	S.W. UNDERDRAIN	6"	4900	21°	1.08	5292	

DATE: 8-30-00

REMARKS: Water level too low to measure

ACTION LIMIT EXCEEDED? \_\_\_\_\_

SAMPLER/ANALYST: BL MB

30-Aug-00  
SM/LG

	<u>Alk</u>	<u>Cl</u>	<u>Cond</u>	<u>SO<sub>4</sub></u>	<u>Na</u>
	mg/L	mg/L	$\mu$ mhos	mg/L	mg/L
<b>Pond #3</b> <b>SM Underdrain</b>	610	8,618	27,900	1,295	6,111

RIP W-72"  
E-8'5"

CROW BUTTE PROJECT  
WEEKLY EVAPORATION POND UNDERDRAIN ANALYSIS

COMMERCIAL PONDS		UNDERDRAIN WATER DEPTH-INCHES	INSTRUMENT READING	TEMPERATURE °C	TEMPERATURE CORRECTION	CONDUCTIVITY umhos/cm	LAB MEASUREMENT
NORTH POND 1	POND CONTENTS	8'2"					94700
	N.E. UNDERDRAIN	1"					
	N.M. UNDERDRAIN	1"					
	N.W. UNDERDRAIN	3"					
	S.E. UNDERDRAIN	1"					
	S.M. UNDERDRAIN	0.					
	S.W. UNDERDRAIN	4"	3300	45°	*	*	12130
SOUTH POND 3	POND CONTENTS	8'6"					101600
	N.E. UNDERDRAIN	5"					
	N.M. UNDERDRAIN	9"	700	20°	1.11	777	
	N.W. UNDERDRAIN	3"					
	S.E. UNDERDRAIN	0"					
	S.M. UNDERDRAIN	5"	11000	20°	1.11	12210	25300
	S.W. UNDERDRAIN	10"	700	20°	1.11	777	
POND NUMBER 4	POND CONTENTS	4'11"					131400
	N.E. UNDERDRAIN	10"	370	45°	*	*	671
	N.M. UNDERDRAIN	14"	2300	21°	1.08	2484	
	N.W. UNDERDRAIN	10"	2100	21°	1.08	2268	20700
	S.E. UNDERDRAIN	16"	12000	19°	1.13	13560	
	S.M. UNDERDRAIN	8"	2100	20°	1.11	2331	
	S.W. UNDERDRAIN	5"	4800	20°	1.11	5328	

DATE: 9/6/00

ACTION LIMIT EXCEEDED? \_\_\_\_\_

SAMPLER/ANALYST: MB-BL

REMARKS: 1 Water level too low to measure  
\* pumped fresh water out of Mit  
Tank water real warm

06-Sep-00  
SM/LG

	<u>Alk</u>	<u>Cl</u>	<u>Cond</u>	<u>SO<sub>4</sub></u>	<u>Na</u>
	mg/l.	mg/l.	µmhos	mg/l.	mg/l.
<b>Pond #3</b> <b>SM Underdrain</b>	540	7,732	25,300	1,113	5,358

**CROW BUTTE PROJECT  
WEEKLY EVAPORATION POND UNDERDRAIN ANALYSIS**

COMMERCIAL PONDS		UNDERDRAIN WATER DEPTH-INCHES	INSTRUMENT READING	TEMPERATURE °C	TEMPERATURE CORRECTION	CONDUCTIVITY umhos/cm	LAB MEASUREMENT
NORTH POND 1	POND CONTENTS	8'5"					94600
	N.E. UNDERDRAIN	2"					
	N.M. UNDERDRAIN	2"					
	N.W. UNDERDRAIN	4"					
	S.E. UNDERDRAIN	1"					
	S.M. UNDERDRAIN	0"					
	S.W. UNDERDRAIN	3"	750-7000	17°	1.18	10,620	13310
SOUTH POND 3	POND CONTENTS	8'6"					105200
	N.E. UNDERDRAIN	5"					
	N.M. UNDERDRAIN	9"	800	21°	1.08	864	
	N.W. UNDERDRAIN	3"					
	S.E. UNDERDRAIN	1"					
	S.M. UNDERDRAIN	5"	12000	18°	1.15	13800	21900
	S.W. UNDERDRAIN	10"	700	19°	1.13	791	
POND NUMBER 4	POND CONTENTS	5'					137600
	N.E. UNDERDRAIN	10"	1200	18°	1.15	1380	2200
	N.M. UNDERDRAIN	14"	2200	19°	1.13	2486	
	N.W. UNDERDRAIN	9"	20000	19°	1.13	22600	24300
	S.E. UNDERDRAIN	15"	12000	23°	1.04	12480	
	S.M. UNDERDRAIN	9"	2000	21°	1.08	2160	
	S.W. UNDERDRAIN	5"					

DATE: 9/13/00

REMARKS:

ACTION LIMIT EXCEEDED? \_\_\_\_\_

SAMPLER/ANALYST: Mat JBL

13-Sep-00  
SM/LG

	<u>Alk</u>	<u>Cl</u>	<u>Cond</u>	<u>SO<sub>4</sub></u>	<u>Na</u>
	mg/L	mg/L	$\mu$ mhos	mg/L	mg/L
<b>Pond #3</b>	490	6,789	21,900	1,026	4,524
<b>SM Underdrain</b>					

**CROW BUTTE PROJECT  
WEEKLY EVAPORATION POND UNDERDRAIN ANALYSIS**

COMMERCIAL PONDS		UNDERDRAIN WATER DEPTH-INCHES	INSTRUMENT READING	TEMPERATURE -C	TEMPERATURE CORRECTION	CONDUCTIVITY umhos/cm	LAB MEASUREMENT
NORTH POND 1	POND CONTENTS	8'2"					94,800
	N.E. UNDERDRAIN	0"					
	N.M. UNDERDRAIN	1"					
	N.W. UNDERDRAIN	3"					
	S.E. UNDERDRAIN	1"					
	S.M. UNDERDRAIN	0"					14,790 (2)
	S.W. UNDERDRAIN	3"	8000	19°	1.13	9040	<del>3024</del>
SOUTH POND 3	POND CONTENTS	8'4"					96,400
	N.E. UNDERDRAIN	6"	500	22°	1.06	530	
	N.M. UNDERDRAIN	8"	800	21°	1.08	864	
	N.W. UNDERDRAIN	3"					
	S.E. UNDERDRAIN	0"					
	S.M. UNDERDRAIN	5"	13000	17°	1.18	15340	27700
	S.W. UNDERDRAIN	9"	700	17°	1.18	826	
POND NUMBER 4	POND CONTENTS	5'3"					141,400
	N.E. UNDERDRAIN	8"	1000	18°	1.15	1150	3320
	N.M. UNDERDRAIN	14"	2200	19°	1.13	2486	
	N.W. UNDERDRAIN	8"	13000	19°	1.13	14690	17580
	S.E. UNDERDRAIN	16"	13000	24°	1.02	13260	
	S.M. UNDERDRAIN	9"	2100	23°	1.04	2184	
	S.W. UNDERDRAIN	5"	5000	22°	1.06	5300	

DATE: 9/20/00

REMARKS:

ACTION LIMIT EXCEEDED? \_\_\_\_\_

SAMPLER/ANALYST: Mat JBL

20-Sep-00  
SM/LG

	<u>Alk</u>	<u>Cl</u>	<u>Cond</u>	<u>SO<sub>4</sub></u>	<u>Na</u>
	mg/L	mg/L	μmhos	mg/L	mg/L
<b>Pond #3</b>	530	6,412	27,700	865	4,494
<b>SM Underdrain</b>					



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**Attachment 2**

**Pond Monitor Well CPM-1 and CPM-2 Analysis**

**WELL SAMPLING SHEET**

Date: 8-28-00 Water Level (TOC): 39.63  
 Sample ID No.: North Pond Monitor Casing Height: 1.5  
 Well Number: CPM 2 Water Level (TOC - CH): 38.13  
 Aquifer: Brule Measuring Point: at wellhead  
 Sample Method: pumpjack/submersible Casing Volume: 31 39  
 Sampling Technician: ROD Time Start Pumping: 1:54

SAMPLE TIME	pH	TEMP	SPECIFIC CONDUCTIVITY (umhos)	FLOW RATE (gpm)	TOTAL GALLONS PUMPED
1:57	7.82	16.1	x = 396	14	39
			x =		
			x =		
			x =		
			x =		
			x =	Total Gallons Pumped	57

Quantity of Sample Taken @ 4°F: 1 liter  
 Sample Taken @ 4°F: \_\_\_\_\_  
 Acidified-HNO<sub>3</sub> F: \_\_\_\_\_  
 Acidified-H<sub>2</sub>SO<sub>4</sub> F: \_\_\_\_\_

LABORATORIES	TYPE OF ANALYSIS	DATE SHIPPED
CBR	Na, Cl, SO <sub>4</sub> , Cond, Alk	

REMARKS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

28-Aug-00  
SM/LG

	<u>Alk</u>	<u>Cl</u>	<u>Cond</u>	<u>SO<sub>4</sub></u>	<u>Na</u>
	mg/L	mg/L	umhos	mg/L	mg/L
<b>Commercial Pond Monitor #1</b>	200	2.8	426	12	15
<b>Commercial Pond Monitor #2</b>	190	4.2	420	12	13

**WELL SAMPLING SHEET**

Date: 8-28-00 Water Level (TOC): 46.18  
 Sample ID No.: South Penn Monitor Casing Height: 1.8  
 Well Number: CPM 1 Water Level (TOC - CH): 44.38  
 Aquifer: Brule Measuring Point: at wellhead  
 Sample Method: pumpjack (submersible) Casing Volume: 28 35  
 Sampling Technician: P.B. Time Start Pumping: 1:43

SAMPLE TIME	pH	TEMP	SPECIFIC CONDUCTIVITY (umhos)	FLOW RATE (gpm)	TOTAL GALLONS PUMPED
2:20	7.78	16.8	x = 108	1.6	35
			x =		
			x =		
			x =		
			x =		
			x =	Total Gallons Pumped	36

Quantity of Sample Taken @ 4°F : 1 liter  
 Sample Taken @ 4°F: \_\_\_\_\_  
 Acidified-HNO<sub>3</sub> F: \_\_\_\_\_  
 Acidified-H<sub>2</sub>SO<sub>4</sub> F: \_\_\_\_\_

LABORATORIES	TYPE OF ANALYSIS	DATE SHIPPED
CBR	Na, Cl, SO <sub>4</sub> , Cond, Alk	

REMARKS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

28-Aug-00  
SM/LG

	<u>Alk</u> mg/L.	<u>Cl</u> mg/L	<u>Cond</u> umhos	<u>SO<sub>4</sub></u> mg L.	<u>Na</u> mg/L.
<b>Commercial Pond Monitor #1</b>	200	2.8	426	12	15
<b>Commercial Pond Monitor #2</b>	190	4.2	420	12	13



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**Attachment 3**

**Commercial Pond Inspection Forms**

CROW BUTTE MINE

COMMERCIAL POND INSPECTION FORM

For The Week Of 8-20-00 through 8-26-00

CHECK ACCORDINGLY: =OK =NEEDS ATTENTION OR REPAIRS

LOCATION	FREQUENCY	SUN	MON	TUE	WED	THU	FRI	SAT
POND 1-DEPTH	Daily	8'4"	8'2"	8'2"	8'2"	8'2"	8'2"	8'3"
EMBANKMENTS	Daily	✓	✓	✓	✓	✓		✓
N.E. UNDERDRAIN	Weekly				1"			
N.M. UNDERDRAIN	Weekly				1"			
N.W. UNDERDRAIN	Weekly				3"			
S.E. UNDERDRAIN	Weekly				1"			
S.M. UNDERDRAIN	Weekly				1"			
S.W. UNDERDRAIN	Weekly	3"	3" raised to 9"	7" lowered to 3"	3"	3"	4"	4"
POND 3-DEPTH	Daily	9'0"	8'9"	8'9"	8'9"	8'9"	8'5"	8'6"
EMBANKMENTS	Daily	✓	✓	✓	✓	✓		✓
N.E. UNDERDRAIN	Weekly				6"			
N.M. UNDERDRAIN	Weekly				9"			
N.W. UNDERDRAIN	Weekly				3"			
S.E. UNDERDRAIN	Weekly				1"			
S.M. UNDERDRAIN	Weekly				2"	7" down to 0"	5"	6"
S.W. UNDERDRAIN	Weekly				2'10"			
POND 4-DEPTH	Daily	5'3"	5'3"	5'3"	5'3"	5'3"	5'4"	5'2"
EMBANKMENTS	Daily	✓	✓	✓				
N.E. UNDERDRAIN	Weekly	7"	7"	7"	7"	7"	9"	7"
N.M. UNDERDRAIN	Weekly				14"			
N.W. UNDERDRAIN	Weekly	7"	9"	9"	8"	8"	10"	8"
S.E. UNDERDRAIN	Weekly				16"			
S.M. UNDERDRAIN	Weekly				9"			
S.W. UNDERDRAIN	Weekly				6"			
INSPECTED INLET PIPING	Weekly							
PERIMETER FENCE	Weekly							
INSPECTED LINERS	Weekly							
INSPECTED DIVERSION DITCHES	Monthly							
INSPECTED WASTE PIPELINE	Monthly							
OTHER (EXPLAIN BELOW)								
INSPECTOR INITIAL HERE ▶		JE	GH	GH	GH	GH	MB	van

COMMENTS: 8/21/00 Added 6" fresh flush water to SW underdrain of Pond #1 per log book @ 1155 hrs. CRM  
 8/22 Started pumping SW underdrain of Pond #1 @ 1125 hrs per log book CRM.  
 8/22 stopped pumping SW underdrain at 1004 hrs.  
 8/23 pumped underdrain pond 3 S.M. starting 7:30 pump off at 1300. level at 0' approx 145 Gal pumped out  
 8/23 1050

8/25 Pumped out Pond #3 SW, Pond #4 NE, NW Pond #1 SW

CROW BUTTE MINE

COMMERCIAL POND INSPECTION FORM

For The Week Of 8-27-00 through 9-2-00

CHECK ACCORDINGLY: =OK =NEEDS ATTENTION OR REPAIRS

LOCATION	FREQUENCY	SUN	MON	TUE	WED	THU	FRI	SAT
POND 1-DEPTH	Daily	8'3"	8'3"	8'3"	8'4"	8'2"	8'2"	8'2"
EMBANKMENTS	Daily	✓	✓	✓	✓	✓	✓	✓
N.E. UNDERDRAIN	Weekly				2"			
N.M. UNDERDRAIN	Weekly				2"			
N.W. UNDERDRAIN	Weekly				4"			
S.E. UNDERDRAIN	Weekly				0"			
S.M. UNDERDRAIN	Weekly				0"			
S.W. UNDERDRAIN	Weekly	3"	3"	3"	3"	6"	8"	5"
POND 3-DEPTH	Daily	8'6"	8'6"	8'6"	8'7"	8'5"	8'5"	8'5"
EMBANKMENTS	Daily	✓	✓	✓	✓	✓	✓	✓
N.E. UNDERDRAIN	Weekly				7"			
N.M. UNDERDRAIN	Weekly				9"			
N.W. UNDERDRAIN	Weekly				3"			
S.E. UNDERDRAIN	Weekly				1"			
S.M. UNDERDRAIN	Weekly	5"	5"	5"	5"	6"	7"	7"
S.W. UNDERDRAIN	Weekly				9"			
POND 4-DEPTH	Daily	5'1"	5'0"	5'	5'5"	5'	5'	5'
EMBANKMENTS	Daily	✓	✓	✓	✓	✓	✓	✓
N.E. UNDERDRAIN	Weekly	7"	7"	7"	6"	8"	10"	10"
N.M. UNDERDRAIN	Weekly				15"			
N.W. UNDERDRAIN	Weekly	7"	7"	8"	9"	11"	10"	10"
S.E. UNDERDRAIN	Weekly				17"			
S.M. UNDERDRAIN	Weekly				9"			
S.W. UNDERDRAIN	Weekly				6"			
INSPECTED INLET PIPING	Weekly				✓			
PERIMETER FENCE	Weekly				✓			
INSPECTED LINERS	Weekly				✓			
INSPECTED DIVERSION DITCHES	Monthly				✓			
INSPECTED WASTE PIPELINE	Monthly				✓			
OTHER (EXPLAIN BELOW)								
INSPECTOR INITIAL HERE ▶		JE	JE	SH	MB	MB	MB	YC

COMMENTS: \*Liner vent NE corner of Pond #1 needs repair.  
 \*Pumped water into Pond #1 SW Underdrain & Pond #4 NE & NW Underdrains.  
 \*Pumped water out of underdrains Friday. (#1 SW & #4 NW & NV)

CROW BUTTE MINE

COMMERCIAL POND INSPECTION FORM

For The Week Of 9-3-00 through 9-9-00

CHECK ACCORDINGLY: =OK =NEEDS ATTENTION OR REPAIRS

LOCATION	FREQUENCY	SUN	MON	TUE	WED	THU	FRI	SAT
POND 1-DEPTH	Daily	8'2"	8'2"	8'2"	8'2"	8'1"	8'1"	8'2"
EMBANKMENTS	Daily	✓	✓	✓	✓	✓	✓	✓
N.E. UNDERDRAIN	Weekly				1"			
N.M. UNDERDRAIN	Weekly				1"			
N.W. UNDERDRAIN	Weekly				3"			
S.E. UNDERDRAIN	Weekly				1"			
S.M. UNDERDRAIN	Weekly				0"			
S.W. UNDERDRAIN	Weekly	5"	5"	5"	4"	4"	4"	4"
POND 3-DEPTH	Daily	8'5"	8'5"	8'5"	8'6"	8'6"	8'6"	8'5"
EMBANKMENTS	Daily	✓	✓	✓	✓	✓	✓	✓
N.E. UNDERDRAIN	Weekly				5"			
N.M. UNDERDRAIN	Weekly				9"			
N.W. UNDERDRAIN	Weekly				3"			
S.E. UNDERDRAIN	Weekly				0"			
S.M. UNDERDRAIN	Weekly	7"	7"	7"	5"	5"	5"	5"
S.W. UNDERDRAIN	Weekly				10"			
POND 4-DEPTH	Daily	5'	5'	4'11"	4'11"	4'11"	4'11"	4'10"
EMBANKMENTS	Daily	✓	✓	✓	✓	✓	✓	✓
N.E. UNDERDRAIN	Weekly	10"	10"	11"	10"	10"	10"	9"
N.M. UNDERDRAIN	Weekly				14"			
N.W. UNDERDRAIN	Weekly	10"	10"	11"	10"	10"	10"	9"
S.E. UNDERDRAIN	Weekly				16"			
S.M. UNDERDRAIN	Weekly				8"			
S.W. UNDERDRAIN	Weekly				5"			
INSPECTED INLET PIPING	Weekly				✓			
PERIMETER FENCE	Weekly				✓			
INSPECTED LINERS	Weekly				✓			
INSPECTED DIVERSION DITCHES	Monthly							
INSPECTED WASTE PIPELINE	Monthly							
OTHER (EXPLAIN BELOW)								
INSPECTOR INITIAL HERE ▶		TC	TC	MB	BL	BL	BL	BL
COMMENTS:								

CROW BUTTE MINE

COMMERCIAL POND INSPECTION FORM

For The Week Of 10 Sept '08 through 16 Sept '08

CHECK ACCORDINGLY: =OK =NEEDS ATTENTION OR REPAIRS

LOCATION	FREQUENCY	SUN	MON	TUE	WED	THU	FRI	SAT
POND 1-DEPTH	Daily	8'2"	8'2"	8'2"	8'2"	8'2"	8'2"	8'1"
EMBANKMENTS	Daily	✓	✓	✓	✓	✓	✓	✓
N.E. UNDERDRAIN	Weekly				2"			
N.M. UNDERDRAIN	Weekly				2"			
N.W. UNDERDRAIN	Weekly				4"			
S.E. UNDERDRAIN	Weekly				1"			
S.M. UNDERDRAIN	Weekly				0"			
S.W. UNDERDRAIN	Weekly	5"	5"	5"	3"	3"	4"	5"
POND 3-DEPTH	Daily	8'5"	8'5"	8'3"	8'6"	8'2"	8'2"	8'9"
EMBANKMENTS	Daily	✓	✓	✓	✓	✓	✓	✓
N.E. UNDERDRAIN	Weekly				5"			
N.M. UNDERDRAIN	Weekly				9"			
N.W. UNDERDRAIN	Weekly				3"			
S.E. UNDERDRAIN	Weekly				1"			
S.M. UNDERDRAIN	Weekly	7"	7"	7"	5"	6"	6"	5"
S.W. UNDERDRAIN	Weekly				10"			
POND 4-DEPTH	Daily	4'9"	4'9"	4'10"	5'	4'8"	4'8"	4'8"
EMBANKMENTS	Daily	✓	✓	✓	✓	✓	✓	✓
N.E. UNDERDRAIN	Weekly	12"	12"	12"	10"	6"	6"	6"
N.M. UNDERDRAIN	Weekly				14"			
N.W. UNDERDRAIN	Weekly	16"	10"	11"	9"	3"	3"	7"
S.E. UNDERDRAIN	Weekly				15"			
S.M. UNDERDRAIN	Weekly				9"			
S.W. UNDERDRAIN	Weekly				5"			
INSPECTED INLET PIPING	Weekly				✓			
PERIMETER FENCE	Weekly				✓			
INSPECTED LINERS	Weekly				✓			
INSPECTED DIVERSION DITCHES	Monthly							
INSPECTED WASTE PIPELINE	Monthly							
OTHER (EXPLAIN BELOW)								
INSPECTOR INITIAL HERE ▶		van	Q	van	MB	Mat	R	18

COMMENTS: Wednesday: Pumped out underdrains #1 SW, #3 SM / Thursday #4 NE, NW  
 Friday #4 - N.W. underdrain - erratic measurements due to pumping