

Jerry L. Storedahl, Owner



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January 23, 2017

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ROCK PRODUCTS, GRADING & EXCAVATING

Mr. Scott Anderson
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510 Desmond Drive SE
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U.S. FISH & WILDLIFE SERVICE
WFWO

Mr. Tim Romanski
U.S. Fish & Wildlife
510 Desmond Drive SE
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JAN 30 2017

LACEY, WA
RECEIVED

Re: Daybreak habitat Conservation Plan (HCP) Annual Report

Gentlemen:

Attached is a brief summary of the conservation and monitoring measures at the Daybreak site over the past year. In addition to the summaries, we have included raw data and reports prepared by our staff and consultants as prescribed in the HCP.

Over the past two years we have completed the water rights transfer per CM-04; increased the endowment funding to more than \$127,000; mechanically removed invasive vegetation, terraced and planted, fertilized and continue to manage the Dean Creek riparian area; made the annual \$25,000 contribution for offsite floodplain enhancement to the LCFRB per CM-11; and we completed the transfer of the 20 acres to Columbia Land Trust per CM-12.

NPDES, Pond discharge, Dean Creek and piezometer monitoring points have not changed. However, as mining and reclamation progresses, we have moved the transparency monitoring to the more recently excavated and reclaimed ponds, referred to as "New Pond 1 through 7" on the attached field data sheets. In order to avoid confusion we have attached a copy of Figure 3-34 from the HCP with the designated numbering of the new excavations and a "P" prefix. The field data sheets have been amended to include this numbering system.

If you have any questions or comments please feel free to call me or Randy Sweet at (360) 673-5397.

Respectfully submitted,

Kimball Storedahl
Vice President

cc.

Clark County Building and Planning
Department of Ecology
WDNR

Daybreak Conservation Measures Annual Report for 2016

CM-01	Washwater clarification process	Daybreak continues to operate via dry processing only and will continue to do so until further notice.
CM-02	Storm Water and Erosion Control Plan and Storm Water Pollution Prevention Plan	The approved Clark County plan continues to be implemented. Turbidity levels at the Pond 5 outfall ranged from a low of 2.9 in the first quarter to a high of 4.7 NTUs in the fourth quarter. Notably, there was no flow in Dean Creek from early June through September (see MEM-3 data sheets). DMRs and NPDES General Permit monitoring data is attached.
CM-03	Donation of Water Rights	Storedahl transferred additional water rights to the State Trust for enhancement of instream flows in 2014. That transfer included the portion reserved for "limited irrigation or crops" as the agricultural ground was stripped and no longer in production as reported for 2015. The transfer included 90 afy and a variance was received to allow pumping up to 30 afy, without a meter, for ongoing irrigation on an "as needed" basis for riparian and wetland plantings; and 45 afy reserved for industrial use, i.e., makeup water for the closed-loop clarifier system should it be installed. The irrigation water as well as the final 45 afy used in the closed-loop clarifier system will be donated to the State Trust at the completion of all mining and reclamation.
CM-04	Water Management Plan	This measure is approximately 85 % complete pending placement of large wood as it becomes available. Installation of the pumping system and discharge points along Dean Creek has been eliminated per direction of the Services. Aggradation in Dean Creek has eliminated any benefit to flow augmentation. If needed irrigation of the Dean Creek riparian plantings will be conducted with a portable gasoline powered pump and irrigation lines. However, that has not been necessary to date.
CM-05	Conservation and habitat enhancement endowment	As of December 31, 2016 the fund has accrued \$127,246.10 and the year- end bank statement is attached.
CM-06	Native valley-bottom forest revegetation	The conifer planting is complete and the understory planting is scheduled in year seven of operation.
CM-07	Floodplain Reestablishment Between Dean Creek and the ponds	Terracing prescribed in the HCP was completed and planting of riparian vegetation completed during the Fall of 2013. As noted at MEM-06, mechanical weed control and fertilization is ongoing and the plants are thriving.
CM-08	Mining and reclamation designs to reduce the risk of avulsion	Approximate infill and reconfiguration of Pond 1 is 75%; Pond 2 is 75%; Pond 3 is 75%; and Pond 4 is completed. Backfill and grading of the new ponds to the east of Dean Creek is complete, i.e., P-1A & B (see Figure 3-34 of the HCP).
CM-09	Contingency plan for potential avulsion	As previously reported, the avulsion sill and overflow spillway are in place.

CM-10	Study of the Ridgefield Pits and EFLR	Surveys of fish species and distribution were completed by R2 Resources, Inc. during the Summer of 2013. Bathymetric surveys were completed by WEST Consultants, Inc. during that same Summer. Their reports were submitted previously.
CM-11	Offsite floodplain Enhancement	Storedahl made a cash conation of \$25,000 to the Lower Columbia Fish Recovery Board on January 5, 2017 to cover the 2016 commitment, stipulating that the funds were for use only for habitat enhancement in the EFLR sub-basin.
CM-12	Conservation easement and fee-simple transfer	Storedahl completed its consultation with the Columbia Land Trust and ownership of the 20 acres to the south of Bennett Road was transferred, with a conservation easement, in 2016.
CM-13	Riparian management zone on Dean Creek	As noted under CM-07, initial terracing and riparian planting was completed in the Summer and Fall of 2013 and maintenance of the vegetation is ongoing. As noted above, the backfill and grading to the east, i.e., P-1A & B, of the Dean Creek riparian zone is complete and ready for planting.
CM-14	In-channel habitat enhancement in Dean Creek	As noted under CM-02 and 04, field observations show that the continuing accumulation of bed load has exacerbated the intermittent flow problems in Dean Creek. The HCP includes "...an adaptive management framework that acknowledges uncertainty inherent in the management of biological systems..." It calls for "...modification of specific conservation measures to increase their effectiveness and benefits, while meeting overall project goals." Storedahl is prepared to discuss any appropriate alternative actions proposed by the Services and to evaluate their effectiveness in meeting the overall project objectives, i.e., habitat enhancement.
CM-15	Shallow water and wetland habitat creation	Cells P-1C & D (see figure 3-34 in the HCP) have been excavated, topsoil placed and graded, and wetland vegetation planted. Large wood will be placed as it becomes available.
CM-16	Control of non-native predatory fishes	This measure was completed in 2015 and a report of procedures and findings by R2 Resources was provided. The next iteration of this measure is scheduled for 2020.
CM-17	Create habitat suitable For Oregon spotted frogs	To the best of our knowledge, no Oregon spotted frogs have been identified in the area.
CM-18	Control public access	Fencing and signage is in place.

Daybreak Monitoring and Evaluation Measures Annual Report for 2016

MEM-01	Closed-loop Clarifier	Only dry processing is being used at the site and monitoring is proceeding per the NPDES permit as reported under CM-01.
MEM-02	NPDES Monitoring	NPDES monitoring is ongoing. A summary is included with the CM-02 report and raw data is attached. PZ-3 water levels ranged from 34 inches in late August and early September to 44 inches in late January through early March. Temperatures ranged from 9.0 degrees C in January to a high of 14.1 degrees in late September. pH measurements ranged from 7.18 to 7.26 (see attached data).
MEM-03	Water Management Plan Monitoring	Flow from Pond 3 into Pond 5 ranged from 5,450 to 7,000 gpm in April. Flows fell to as low as 700 gpm in August and were periodically less than 1,000 gpm in July through early September, but in late September increased to as much as 1,750 gpm. Temperatures at the Pond 5 outlet ranged from a low of 13.6 to 15.8 degrees C in April and early May. Temperatures increased to 18.9 in late May; 21.8 to 25.8 in July through mid-August; and dropped to 19.0 degrees C in late September. Reported DO remained above 9 mg/l from April through mid-July and then fell gradually to a low of 6.18 mg/l in early August before rebounding to 7.91 mg/l in late September. During the same period, Dean Creek temperatures ranged from 9.8 to 12.1 degrees C during April. They peaked at 17.0 degrees C on June 8 and there was no flow from June 9 through September. DO ranged from 10.64 mg/l to 12.92 mg/l in Dean Creek when flow was present. Reported transparency ranged from 60 to 62 inches in the newly reclaimed Ponds. Only dry processing is being used at the site, and no dissolved chemicals or additives employed. (see attached data)
MEM-04	Pond, Shallow Water, and Shoreline Structure Monitoring	None of the ponds have been fully excavated and reclaimed to date. Only the cells P-1C & D wetlands are complete, as noted under CM-15.
MEM-05	Vegetation Monitoring	As noted in previous reports, there was significant mortality after the 2010 planting and approximately 1,000 additional trees were planted in 2011. Planting at cells P-1C & D are healthy and the riparian area along Dean Creek has been planted and fertilized, and mechanical weed control is ongoing.
MEM-06	Dean Creek Riparian and Channel Condition Monitoring	As noted above, the plantings are thriving with the assistance of mechanical weed control. There has been no need for irrigation to this point, but a variance to the water right has been obtained to allow irrigation with a portable pump as needed.

MEM-07	EFLR Critical Bank Stability Monitoring	WEST Consultants, Inc. completed their survey in February of 2016 and their report is attached. Their report concludes that "Currently, there are no indications to suggest that the East Fork Lewis river poses a near term avulsion threat to the Daybreak Ponds...[however] observations of erosional and depositional areas in the floodplain suggest that during the nearly 25-year flood in December 2015, secondary flow paths ... were actively transporting water and sediment."
MEM-08	Pond Fish Use And Limnological Monitoring	Monitoring of fish use and water quality was completed in August 2012, and the R2 Technical Memorandum covering that work was previously provided. The Cell 1C & D wetlands (aka. #1 & 2 New Excavated Pond on the data sheets) have been monitored for transparency and results are included with the MEM-03 summary and data sheets.
MEM-09	Oregon Spotted Frog Monitoring	To the best of our knowledge, no Oregon spotted frogs have been identified in Clark County to date.
MEM-10	Financial Status Of Conservation Endowment	A summary of the financial status of the endowment is included under CM-05 and the year-end bank statement is attached.

J. L. Storedahl and Sons, Inc.
Daybreak Mine
Stormwater Monitoring Record

Quarter ① 2 3 4 (circle) Year 2010

Turbidity(2 Times/Month)		
Location	Date	Turbidity (NTU)
SW A	1-5	3.0
	1-21	2.9
	2-5	3.1
	2-17	3.0
	3-21	3.2
	3-28	3.0
TSS	2-25	9.5 mg/L
Nitrate + Nitrite (quarterly)		
Location	Date	N (mg/L)
SW A		N/A

pH (quarterly)		
Location	Date	pH (std. Units)
SW A		N/A
GW 1		
GW 2		
GW 3		

Note: Nitrate + Nitrite monitoring only applicable when blasting is used at the facility within the last 2 years.

DMR RECORDDaybreak Mine
Battle Ground, WashingtonSampled By: Jason Stordahl Title: Enviro. Coord. Date: 7-14-16
Quarter: 2

Monitoring Point: SWA

Monthly Turbidity Monitoring (twice per month)

Month	Sample Date	Turbidity (NTU)	No Discharge
April	8	3.3	
April	21	3.1	
May	4	3.4	
May	26	3.8	
June	17	3.4	
June	28	3.3	

pH Monitoring (Monthly)

Sample Date	pH	No Discharge
N/A		

OIL SHEEN DETECTED (Daily)☒ No
☐ Yes Date _____**OIL SHEEN/PETROLEUM PRODUCTES DISCHARGED TO GROUND OR SURFACE WATER**☒ No
☐ Yes Date _____

Monitoring Point: GW1

pH Monitoring (Quarterly)

Sample Date	pH	No Discharge
N/A		

OIL SHEEN DETECTED (Daily)☒ No
☐ Yes Date _____**OIL SHEEN/PETROLEUM PRODUCTES DISCHARGED TO GROUND OR SURFACE WATER**☒ No
☐ Yes Date _____

DMR RECORD
Daybreak Mine
Battle Ground, Washington

Monitoring Point: GW2

pH Monitoring (Quarterly)

Sample Date	pH	No Discharge
N/A		

OIL SHEEN DETECTED (Daily)

☒ No
☐ Yes Date _____

OIL SHEEN/PETROLEUM PRODUCTES DISCHARGED TO GROUND OR SURFACE WATER

☒ No
☐ Yes Date _____

Monitoring Point: GW3

pH Monitoring (Quarterly)

Sample Date	pH	No Discharge
N/A		

OIL SHEEN DETECTED (Daily)

☒ No
☐ Yes Date _____

OIL SHEEN/PETROLEUM PRODUCTES DISCHARGED TO GROUND OR SURFACE WATER

☒ No
☐ Yes Date _____

Monitoring Point: GW5

pH Monitoring (Quarterly)

Sample Date	pH	No Discharge
N/A		

OIL SHEEN DETECTED (Daily)

☒ No
☐ Yes Date _____

OIL SHEEN/PETROLEUM PRODUCTES DISCHARGED TO GROUND OR SURFACE WATER

☒ No
☐ Yes Date _____

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: JL Storedahl & Sons, Incorporated
Project:
Sample Matrix: Water
Analysis Method: SM 2540 D
Prep Method: None

Service Request: K1606802
Date Collected: 06/21/16
Date Received: 06/21/16

Units: mg/L
Basis: NA

Solids, Total Suspended (TSS)

Sample Name	Lab Code	Result	MRL	Dil.	Date Analyzed	Q
SWA Daybreak	K1606802-001	17.5	5.0	1	06/24/16 11:21	
Method Blank	K1606802-MB1	ND U	4.0	1	06/24/16 11:21	
Method Blank	K1606802-MB2	ND U	5.0	1	06/24/16 11:21	

DMR RECORDDaybreak Mine
Battle Ground, WashingtonSampled By: Jason Stordahl Title: Enviro. Coord. Date: 10-12-16
Quarter: 3

Monitoring Point: SWA

Monthly Turbidity Monitoring (twice per month)

Month	Sample Date	Turbidity (NTU)	No Discharge
July	7	3.6	
August	10	3.7	
September	5	3.7	
July	25	4.1	
August	30	3.9	
September	30	3.6	

pH Monitoring (Monthly)

Sample Date	pH	No Discharge
N/A		

OIL SHEEN DETECTED (Daily)☒ No
☐ Yes Date _____**OIL SHEEN/PETROLEUM PRODUCTES DISCHARGED TO GROUND OR SURFACE WATER**☒ No
☐ Yes Date _____

Monitoring Point: GW1

pH Monitoring (Quarterly)

Sample Date	pH	No Discharge
N/A		

OIL SHEEN DETECTED (Daily)☒ No
☐ Yes Date _____**OIL SHEEN/PETROLEUM PRODUCTES DISCHARGED TO GROUND OR SURFACE WATER**☒ No
☐ Yes Date _____

DMR RECORD
Daybreak Mine
Battle Ground, Washington

Monitoring Point: GW2

pH Monitoring (Quarterly)

Sample Date	pH	No Discharge
N/A		

OIL SHEEN DETECTED (Daily)

☒ No
☐ Yes Date _____

OIL SHEEN/PETROLEUM PRODUCTES DISCHARGED TO GROUND OR SURFACE WATER

☒ No
☐ Yes Date _____

Monitoring Point: GW3

pH Monitoring (Quarterly)

Sample Date	pH	No Discharge
N/A		

OIL SHEEN DETECTED (Daily)

☒ No
☐ Yes Date _____

OIL SHEEN/PETROLEUM PRODUCTES DISCHARGED TO GROUND OR SURFACE WATER

☐ No
☐ Yes Date _____

Monitoring Point: GW5

pH Monitoring (Quarterly)

Sample Date	pH	No Discharge
N/A		

OIL SHEEN DETECTED (Daily)

☒ No
☐ Yes Date _____

OIL SHEEN/PETROLEUM PRODUCTES DISCHARGED TO GROUND OR SURFACE WATER

☒ No
☐ Yes Date _____

ALS Group USA, Corp.

dba ALS Environmental

Analytical Report

Client: JL Storedahl & Sons, Incorporated**Project:****Sample Matrix:** Water**Analysis Method:** SM 2540 D**Prep Method:** None**Service Request:** K1608068**Date Collected:** 07/18/16**Date Received:** 07/18/16**Units:** mg/L**Basis:** NA**Solids, Total Suspended (TSS)**

Sample Name	Lab Code	Result	MRL	Dil.	Date Analyzed	Q
GW3 Daybreak	K1608068-001	21.5	5.0	1	07/21/16 14:12	
GW4 Tebo	K1608068-002	20.0	5.0	1	07/21/16 14:12	
Method Blank	K1608068-MB1	ND U	4.0	1	07/21/16 14:12	
Method Blank	K1608068-MB2	ND U	4.0	1	07/21/16 14:12	

DMR RECORD

Daybreak Mine

Battle Ground, Washington

Sampled By: Jason Storedahl Title: Enviro. Coord. Date: 1-10-17Quarter: 4

Monitoring Point: SWA

Monthly Turbidity Monitoring (twice per month)

Month	Sample Date	Turbidity (NTU)	No Discharge
<u>October</u>	<u>6</u>	<u>3.9</u>	
<u>November</u>	<u>9</u>	<u>4.0</u>	
<u>December</u>	<u>5</u>	<u>4.1</u>	
<u>October</u>	<u>28</u>	<u>4.1</u>	
<u>November</u>	<u>16</u>	<u>4.3</u>	
<u>December</u>	<u>20</u>	<u>4.7</u>	

TSS 11-28-16 5.5 mg/L

pH Monitoring (Monthly)

Sample Date	pH	No Discharge
<u>N/A</u>		

OIL SHEEN DETECTED (Daily)☒ No
☐ Yes Date _____**OIL SHEEN/PETROLEUM PRODUCTES DISCHARGED TO GROUND OR SURFACE WATER**☒ No
☐ Yes Date _____

Monitoring Point: GW1

pH Monitoring (Quarterly)

Sample Date	pH	No Discharge
<u>N/A</u>		

OIL SHEEN DETECTED (Daily)☒ No
☐ Yes Date _____**OIL SHEEN/PETROLEUM PRODUCTES DISCHARGED TO GROUND OR SURFACE WATER**☒ No
☐ Yes Date _____

DMR RECORD
Daybreak Mine
Battle Ground, Washington

Monitoring Point: GW2

pH Monitoring (Quarterly)

Sample Date	pH	No Discharge
N/A		

OIL SHEEN DETECTED (Daily)

☒ No
☐ Yes Date _____

OIL SHEEN/PETROLEUM PRODUCTES DISCHARGED TO GROUND OR SURFACE WATER

☒ No
☐ Yes Date _____

Monitoring Point: GW3

pH Monitoring (Quarterly)

Sample Date	pH	No Discharge
N/A		

OIL SHEEN DETECTED (Daily)

☒ No
☐ Yes Date _____

OIL SHEEN/PETROLEUM PRODUCTES DISCHARGED TO GROUND OR SURFACE WATER

☒ No
☐ Yes Date _____

Monitoring Point: GW5

pH Monitoring (Quarterly)

Sample Date	pH	No Discharge
N/A		

OIL SHEEN DETECTED (Daily)

☒ No
☐ Yes Date _____

OIL SHEEN/PETROLEUM PRODUCTES DISCHARGED TO GROUND OR SURFACE WATER

☒ No
☐ Yes Date _____

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: JL Storedahl & Sons, Incorporated
Project:
Sample Matrix: Water
Analysis Method: SM 2540 D
Prep Method: None

Service Request: K1614377
Date Collected: 11/28/16
Date Received: 11/28/16

Units: mg/L
Basis: NA

Solids, Total Suspended (TSS)

Sample Name	Lab Code	Result	MRL	Dil.	Date Analyzed	Q
Daybreak SWA	K1614377-001	5.5	5.0	1	11/30/16 15:38	
Method Blank	K1614377-MB1	ND U	5.0	1	11/30/16 15:38	
Method Blank	K1614377-MB2	ND U	4.0	1	11/30/16 15:38	

J.L. Storedahl & Sons, Inc.
Daybreak Mine

MEM-02/ Clark County Groundwater Monitoring Record – Page 3 of 8

LOCATION	MONTH	DATE	pH (std. units)	Temperature (°C)	Water Level
PZ-3*	January	1-6-2016	7.18	9.1	43"
		1-21-2016	7.20	9.0	44"
	February	2-11-2016	7.16	9.3	44"
		2-29-2016	7.18	9.4	43"
	March	3-21-2016	7.19	9.6	44"
		3-28-2016	7.20	9.8	43"
	April	4-6-2016	7.21	10.1	41"
		4-21-2016	7.22	10.3	40"
	May	5-5-2016	7.20	10.6	38"
		5-26-2016	7.18	10.9	37"
	June	6-8-2016	7.20	11.3	38"
		6-27-2016	7.22	11.6	38"
	July	7-6-2016	7.16	11.9	36"
		7-26-2016	7.19	12.2	35"
	August	8-9-2016	7.24	12.8	35"
		8-30-2016	7.20	13.2	34"
	September	9-9-2016	7.20	13.8	34"
		9-28-2016	7.18	14.1	34"
	October	10-5-2016	7.20	13.5	35"
		10-20-2016	7.25	12.9	36"
	November	11-10-2016	7.23	12.1	36"
		11-17-2016	7.20	11.8	38"
	December	12-8-2016	7.26	11.3	38"
		12-20-2016	7.25	10.9	40"

* Monitoring should coincide with SW-A (Pond 5) monitoring.

J.L. Storedahl & Sons, Inc.
Daybreak Mine
Pond 3 MEM-03 Monitoring Record – Page 1 of 5

Year 2016

Pond 3				
Month	Date	Staff Gauge Reading ⁷¹⁰⁰ ↓ _{APM}		Water Level (Elev. AMSL)
APRIL	1	.98	7,000	30.90
	4	.98	7,000	30.94
	5	.98	7,000	30.88
	6	.98	7,000	30.80
	7	.98	7,000	30.75
	8	.96	7,000	30.81
	11	.94	6,600	30.86
	12	.93	6,400	30.88
	13	.90	6,300	30.88
	14	.90	6,300	30.84
	15	.89	6,200	30.78
	18	.88	6,100	30.80
	19	.88	6,100	30.85
	20	.87	5,800	30.72
	21	.87	5,800	30.68
	22	.86	5,700	30.75
	25	.85	5,650	30.60
	26	.85	5,650	30.58
	27	.84	5,450	30.50
	28	.84	5,450	30.50
	29	.83	5,450	30.52

J.L. Storedahl & Sons, Inc.
Daybreak Mine
Pond 3 MEM-03 Monitoring Record – Page 1 of 5

Year 2016

Pond 3				
Month	Date	Staff Gauge Reading ^{Flow} _{at PM}		Water Level (Elev. AMSL)
MAY	2	.83	5,450	30.86
	3	.83	5,450	30.86
	4	.80	5,200	30.84
	5	.81	5,300	30.80
	6	.81	5,300	30.83
	9	.82	5,450	30.81
	10	.80	5,200	30.79
	11	.76	4,850	30.80
	12	.76	4,850	30.77
	13	.72	4,450	30.74
	16	.72	4,450	30.72
	17	.71	4,375	30.73
	18	.70	4,300	30.70
	19	.70	4,300	30.70
	20	.68	4,175	30.68
	23	.67	4,100	30.64
	24	.63	3,600	30.61
	25	.61	3,500	30.60
	26	.56	3,100	30.62
	27	.56	3,100	30.60
	30	.55	3,000	30.56
	31	.53	2,750	30.53

J.L. Storedahl & Sons, Inc.
Daybreak Mine
Pond 3 MEM-03 Monitoring Record – Page 2 of 5

Year 2016

Pond 3				
Month	Date	Staff Gauge Reading ^{7:45 AM} ↓ (APM)		Water Level (Elev. AMSL)
JUN	1	.50	2,600	30.51
	2	.50	2,600	30.53
	3	.48	2,475	30.50
	6	.45	2,250	30.47
	7	.46	2,350	30.45
	8	.44	2,275	30.47
	9	.40	1,900	30.34
	10	.40	1,900	30.38
	13	.39	1,800	30.41
	14	.38	1,700	30.40
	15	.36	1,675	30.40
	16	.35	1,550	30.32
	17	.34	1,500	30.26
	20	.34	1,500	30.30
	21	.35	1,550	30.40
	22	.33	1,450	30.34
	23	.32	1,400	30.28
	24	.31	1,350	30.30
	27	.31	1,350	30.26
	28	.31	1,350	30.20
	29	.30	1,200	30.22
	30	.30	1,200	30.30

J.L. Storedahl & Sons, Inc.
Daybreak Mine
Pond 3 MEM-03 Monitoring Record – Page 3 of 5

Year 2016

Pond 3				
Month	Date	Staff Gauge Reading ^{Flow} ↓ _{GPM}		Water Level (Elev. AMSL)
JUL	1	.24	856	30.32
	4	.24	850	30.35
	5	.25	950	30.34
	6	.24	850	30.35
	7	.23	800	30.29
	8	.23	800	30.30
	11	.22	750	30.32
	12	.21	750	30.35
	13	.22	750	30.34
	14	.20	700	30.34
	15	.22	750	30.36
	18	.24	850	30.32
	19	.25	950	30.31
	20	.26	1,000	30.28
	21	.25	950	30.26
	22	.28	1,100	30.29
	25	.28	1,100	30.30
	26	.26	1,000	30.32
	27	.25	950	30.31
	28	.25	950	30.29
	29	.24	850	30.28

J.L. Storedahl & Sons, Inc.
Daybreak Mine
Pond 3 MEM-03 Monitoring Record – Page 4 of 5

Year 2016

Pond 3				
Month	Date	Staff Gauge Reading ^{Flow} _{GPM}		Water Level (Elev. AMSL)
AUG	1	.28	1,100	30.48
	2	.28	1,100	30.40
	3	.26	1,000	30.38
	4	.23	800	30.36
	5	.21	750	30.38
	8	.20	700	30.34
	9	.20	700	30.30
	10	.21	750	30.34
	11	.23	800	30.37
	12	.24	850	30.36
	15	.26	1,000	30.35
	16	.24	850	30.31
	17	.22	750	30.32
	18	.20	700	30.30
	19	.23	800	30.29
	22	.25	950	30.29
	23	.21	750	30.30
	24	.20	700	30.32
	25	.20	700	30.31
	26	.21	750	30.29
	29	.23	800	30.30
	30	.24	850	30.33
	31	.23	800	30.31

J.L. Storedahl & Sons, Inc.
Daybreak Mine
Pond 3 MEM-03 Monitoring Record – Page 5 of 5

Year 2016

Pond 3				
Month	Date	Staff Gauge Reading <i>4200 GPM</i>		Water Level (Elev. AMSL)
SEP	1	.23	800	30.29
	2	.25	950	30.31
	5	.25	950	30.30
	6	.24	900	30.28
	7	.27	1050	30.28
	8	.26	1,000	30.27
	9	.28	1,100	30.28
	12	.30	1,200	30.26
	13	.29	1,150	30.24
	14	.30	1,200	30.25
	15	.32	1,400	30.27
	16	.34	1,500	30.29
	19	.35	1,550	30.31
	20	.37	1,750	30.30
	21	.36	1,675	30.34
	22	.35	1,550	30.33
	23	.34	1,500	30.36
	26	.36	1,675	30.36
	27	.38	1,700	30.34
	28	.37	1,750	30.32
	29	.36	1,675	30.33
	30	.36	1,675	30.31

J. L. Storedahl & Sons, Inc.
Daybreak Mine
SW A (Pond 5) MEM-03 Monitoring Record – Page 1 of 5

Year 2010

SW A (Pond 5)						
Month	Date	Temperature (°C)	Flow (GPM)	DO	Staff Gauge Reading	Water Level (Elev. AMSL)
April	1	13.6		12.20		30.93
	4	13.6		12.32		30.90
	5	13.8		12.70		30.91
	6	13.9		12.84		30.90
	7	14.1		13.10		30.92
	8	13.9		13.87		30.89
	11	14.0		14.10		30.87
	12	14.3		14.50		30.88
	13	14.6		14.56		30.87
	14	14.6		14.30		30.83
	15	14.5		13.98		30.84
	18	14.6		13.80		30.86
	19	14.8		13.90		30.87
	20	14.9		13.12		30.84
	21	14.8		12.90		30.82
	22	14.9		12.51		30.80
	25	15.1		13.16		30.79
	26	15.4		12.87		30.81
	27	15.8		12.16		30.83
	28	15.6		12.31		30.82
	29	15.4		11.90		30.83

J. L. Storedahl & Sons, Inc.
Daybreak Mine
SW A (Pond 5) MEM-03 Monitoring Record – Page 1 of 5

Year 2016

SW A (Pond 5)						
Month	Date	Temperature (°C)	Flow (GPM)	DO	Staff Gauge Reading	Water Level (Elev. AMSL)
MAY	2	15.6		12.11		30.83
	3	15.6		12.16		30.80
	4	15.7		12.08		30.80
	5	15.6		11.97		30.78
	6	15.7		11.81		30.78
	9	15.8		11.88		30.78
	10	16.1		11.79		30.65
	11	16.1		11.94		30.63
	12	16.4		11.82		30.63
	13	16.5		11.75		30.62
	16	16.9		12.03		30.59
	17	16.7		11.87		30.54
	18	16.9		11.56		30.50
	19	17.0		11.49		30.48
	20	17.3		11.25		30.41
	23	17.6		11.61		30.35
	24	17.2		11.26		30.28
	25	17.5		10.90		30.20
	26	17.9		11.14		30.16
	27	18.3		11.07		30.08
	30	18.5		11.12		29.00
	31	18.9		10.86		28.90

J. L. Storedahl & Sons, Inc.
Daybreak Mine
SW A (Pond 5) MEM-03 Monitoring Record – Page 2 of 5

Year 2016

SW A (Pond 5)						
Month	Date	Temperature (°C)	Flow (GPM)	DO	Staff Gauge Reading	Water Level (Elev. AMSL)
JUN	1	18.8		10.89		28.88
	2	18.8		10.81		28.88
	3	18.9		10.92		28.85
	6	18.7		10.73		28.80
	7	18.9		10.87		28.76
	8	19.1		10.78		28.74
	9	19.4		10.91		28.74
	10	19.3		10.86		28.72
	13	19.5		10.69		28.69
	14	19.8		10.75		28.68
	15	19.9		10.68		28.68
	16	20.1		10.53		28.60
	17	20.0		10.59		28.58
	20	19.9		10.48		28.56
	21	20.4		10.27		28.53
	22	20.7		10.01		28.50
	23	20.8		9.83		28.47
	24	21.1		10.14		28.48
	27	21.5		9.97		28.39
	28	21.4		9.62		28.32
	29	21.7		9.53		28.30
	30	21.8		9.76		28.30

J. L. Storedahl & Sons, Inc.
Daybreak Mine
SW A (Pond 5) MEM-03 Monitoring Record – Page 3 of 5

Year 2016

SW A (Pond 5)						
Month	Date	Temperature (°C)	Flow (GPM)	DO	Staff Gauge Reading	Water Level (Elev. AMSL)
JUL	1	21.9		9.80		29.10
	4	21.8		9.86		29.11
	5	22.0		9.86		29.15
	6	22.1		9.90		29.20
	7	22.6		9.72		29.20
	8	22.7		9.68		29.28
	11	22.5		9.74		29.30
	12	22.6		9.67		29.38
	13	22.1		9.65		29.40
	14	22.2		9.58		29.38
	15	22.5		9.30		29.42
	18	23.1		9.10		29.46
	19	23.4		8.89		29.50
	20	23.7		8.60		29.48
	21	24.0		8.10		29.52
	22	24.2		7.20		29.50
	25	24.7		6.97		29.50
	26	25.0		6.39		29.55
	27	25.4		6.50		29.61
	28	25.7		6.58		29.60
	29	25.6		6.36		29.60

J. L. Storedahl & Sons, Inc.
Daybreak Mine
SW A (Pond 5) MEM-03 Monitoring Record – Page 4 of 5

Year 2016

SW A (Pond 5)						
Month	Date	Temperature (°C)	Flow (GPM)	DO	Staff Gauge Reading	Water Level (Elev. AMSL)
AUG	1	25.8		6.50		29.60
	2	25.7		6.52		29.61
	3	25.8		6.18		29.62
	4	25.5		6.25		29.60
	5	25.3		6.30		29.63
	8	25.0		6.28		29.64
	9	25.0		6.51		29.65
	10	24.8		6.59		29.60
	11	24.7		6.72		29.61
	12	24.5		6.70		29.65
	15	24.7		6.92		29.66
	16	25.1		7.18		29.65
	17	25.3		6.88		29.66
	18	25.4		6.80		29.68
	19	25.4		6.67		29.70
	22	25.3		6.52		29.66
	23	25.1		6.36		29.71
	24	24.7		6.90		29.76
	25	24.5		7.25		29.74
	26	24.1		7.16		29.74
	29	23.8		7.38		29.71
	30	23.7		7.25		29.70
	31	23.5		7.12		29.68

J. L. Storedahl & Sons, Inc.
Daybreak Mine
SW A (Pond 5) MEM-03 Monitoring Record – Page 5 of 5

Year 2016

SW A (Pond 5)						
Month	Date	Temperature (°C)	Flow (GPM)	DO	Staff Gauge Reading	Water Level (Elev. AMSL)
SEP	1	23.4		6.84		30.26
	2	23.4		6.88		30.27
	5	23.5		7.18		30.26
	6	23.2		6.93		30.25
	7	23.3		7.10		30.24
	8	22.9		7.15		30.28
	9	22.6		6.97		30.30
	12	22.5		7.45		30.28
	13	22.5		7.62		30.29
	14	22.3		7.30		30.30
	15	22.2		7.18		30.29
	16	21.8		7.31		30.29
	19	21.6		7.09		30.33
	20	21.2		6.97		30.31
	21	20.7		7.16		30.32
	22	20.5		7.37		30.34
	23	20.6		7.45		30.35
	26	20.2		7.78		30.30
	27	19.7		7.51		30.34
	28	19.5		7.70		30.36
	29	19.2		7.84		30.35
	30	19.0		7.91		30.36

J.L. Storedahl & Sons, Inc.
Daybreak Mine
Dean Creek MEM-03 Monitoring Record – Page 1 of 5

Year 2016

Dean Creek						
Month	Date	Temperature (°C)	Flow (GPM)	DO	Staff Gauge Reading	Water Level (Elev. AMSL)
APRIL	1	12.3		10.65		29.25
	4	12.3		10.64		29.25
	5	12.4		10.78		29.85
	6	12.6		10.80		30.20
	7	12.8		10.88		30.75
	8	10.0		11.32		29.95
	11	10.4		11.45		29.25
	12	10.5		11.80		29.10
	13	10.7		12.92		28.80
	14	10.5		11.96		28.70
	15	10.1		12.35		28.75
	18	10.2		12.56		28.70
	19	9.8		12.85		28.67
	20	10.1		12.80		28.58
	21	10.3		12.60		28.60
	22	10.8		12.73		28.58
	25	11.3		12.68		28.58
	26	11.4		12.81		28.52
	27	11.8		12.72		28.52
	28	12.0		12.65		28.50
	29	12.1		12.21		28.50

J.L. Stordahl & Sons, Inc.
Daybreak Mine
Dean Creek MEM-03 Monitoring Record – Page 1 of 5

Year 2016

Dean Creek						
Month	Date	Temperature (°C)	Flow (GPM)	DO	Staff Gauge Reading	Water Level (Elev. AMSL)
MAY	2	12.2		11.28		28.45
	3	12.4		11.26		28.47
	4	12.5		11.28		28.45
	5	12.7		11.32		28.45
	6	12.6		11.30		28.46
	9	12.7		11.26		28.45
	10	12.7		11.22		28.44
	11	12.8		11.36		28.40
	12	13.0		11.20		28.40
	13	13.2		11.28		28.38
	16	13.3		11.10		28.36
	17	13.3		11.15		28.35
	18	13.2		10.91		28.35
	19	13.6		11.05		28.34
	20	14.0		11.30		28.37
	23	14.3		11.50		28.30
	24	14.9		11.52		28.30
	25	15.4		11.50		28.28
	26	15.9		11.55		28.27
	27	16.0		11.60		28.27
	30	16.0		11.45		28.26
	31	16.1		11.50		28.25

J.L. Storedahl & Sons, Inc.
Daybreak Mine
Dean Creek MEM-03 Monitoring Record – Page 2 of 5

Year 2016

Dean Creek						
Month	Date	Temperature (°C)	Flow (GPM)	DO	Staff Gauge Reading	Water Level (Elev. AMSL)
JUN	1	16.2		11.65		28.20
	2	16.3		11.68		28.20
	3	16.5		11.80		28.19
	6	16.7		12.03		28.15
	7	16.8		12.25		28.15
	8	17.0		12.60		28.13
	9	No Flow the rest of the month				
	10					
	13					
	14					
	15					
	16					
	17					
	20					
	21					
	22					
	23					
	24					
	27					
	28					
	29					
	30					

J.L. Stordahl & Sons, Inc.
Daybreak Mine
Dean Creek MEM-03 Monitoring Record – Page 3 of 5

Year 2011

Dean Creek						
Month	Date	Temperature (°C)	Flow (GPM)	DO	Staff Gauge Reading	Water Level (Elev. AMSL)
JUL	1	No flow all month				
	4					
	5					
	6					
	7					
	8					
	11					
	12					
	13					
	14					
	15					
	18					
	19					
	20					
	21					
	22					
	25					
	26					
	27					
	28					
	29					

J.L. Stordahl & Sons, Inc.
Daybreak Mine
Dean Creek MEM-03 Monitoring Record – Page 4 of 5

Year 2016

Dean Creek						
Month	Date	Temperature (°C)	Flow (GPM)	DO	Staff Gauge Reading	Water Level (Elev. AMSL)
AUG	1	No flow all month				
	2					
	3					
	4					
	5					
	8					
	9					
	10					
	11					
	12					
	15					
	16					
	17					
	18					
	19					
	22					
	23					
	24					
	25					
	26					
	29					
	30					
	31					

J.L. Stordahl & Sons, Inc.
Daybreak Mine
Dean Creek MEM-03 Monitoring Record – Page 5 of 5

Year 2016

Dean Creek						
Month	Date	Temperature (°C)	Flow (GPM)	DO	Staff Gauge Reading	Water Level (Elev. AMSL)
SEP	1	No flow all month				
	2					
	5					
	6					
	7					
	8					
	9					
	12					
	13					
	14					
	15					
	16					
	19					
	20					
	21					
	22					
	23					
	26					
	27					
	28					
	29					
	30					

J. L. Storedahl & Sons, Inc.

Daybreak Mine

Pond _____ MEM-08 Monitoring Record – Page 1 of 6

Year 2016 Date 4/12

Pond #1 *New pond reclaimed* P-1D

Month	Water Level (Elev. AMSL)	Depth	Transparency	Temperature (°C)	DO	pH
APRIL			61"			

J. L. Storedahl & Sons, Inc.

Daybreak Mine

Pond _____ MEM-08 Monitoring Record – Page 2 of 6

Year 2016 Date 5/25

Pond #1 *New pond reclaimed*

Month	Water Level (Elev. AMSL)	Depth	Transparency	Temperature (°C)	DO	pH
MAY			LOV"			

J. L. Stordahl & Sons, Inc.

Daybreak Mine

Pond _____ MEM-08 Monitoring Record – Page 3 of 6

Year 2016 Date 6/9

Pond #1 New pond reclaimed

Month	Water Level (Elev. AMSL)	Depth	Transparency	Temperature (°C)	DO	pH
JUN			61"			

J. L. Storedahl & Sons, Inc.

Daybreak Mine

Pond _____ MEM-08 Monitoring Record – Page 4 of 6

Year 2016 Date 7/14

Pond #1 New pond reclaimed

Month	Water Level (Elev. AMSL)	Depth	Transparency	Temperature (°C)	DO	pH
JUL			61"			

J. L. Storedahl & Sons, Inc.
Daybreak Mine

Pond _____ MEM-08 Monitoring Record – Page 4 of 5

Year 2010 Date 8/29

Pond #1 *New pond reclaimed*

Month	Water Level (Elev. AMSL)	Depth	Transparency	Temperature (°C)	DO	pH
AUG			62"			

J. L. Storedahl & Sons, Inc.

Daybreak Mine

Pond _____ MEM-08 Monitoring Record – Page 5 of 5

Year 2016 Date 9/8

Pond #1 New pond reclaimed

Month	Water Level (Elev. AMSL)	Depth	Transparency	Temperature (°C)	DO	pH
SEPT			62"			

J. L. Storedahl & Sons, Inc.

Daybreak Mine

Pond _____ MEM-08 Monitoring Record – Page 1 of 6

Year 2016 Date 4/12

Pond #2 New pond reclaimed P-1C

Month	Water Level (Elev. AMSL)	Depth	Transparency	Temperature (°C)	DO	pH
APRIL			60"			

J. L. Storedahl & Sons, Inc.

Daybreak Mine

Pond _____ MEM-08 Monitoring Record – Page 2 of 6

Year 2016 Date 5/25

Pond #2 New pond reclaimed

Month	Water Level (Elev. AMSL)	Depth	Transparency	Temperature (°C)	DO	pH
MAY			61"			

J. L. Storedahl & Sons, Inc.

Daybreak Mine

Pond _____ MEM-08 Monitoring Record – Page 3 of 6

Year 2016 Date 6/9

Pond #2 *New pond reclaimed*

Month	Water Level (Elev. AMSL)	Depth	Transparency	Temperature (°C)	DO	pH
JUN			60"			

J. L. Storedahl & Sons, Inc.

Daybreak Mine

Pond _____ MEM-08 Monitoring Record – Page 4 of 6

Year 2016 Date 7/14

Pond #2 New pond reclaimed

Month	Water Level (Elev. AMSL)	Depth	Transparency	Temperature (°C)	DO	pH
JUL			61"			

J. L. Storedahl & Sons, Inc.

Daybreak Mine

Pond _____ MEM-08 Monitoring Record – Page 4 of 5

Year 2016 Date 8/29

Pond #2 New pond reclaimed

Month	Water Level (Elev. AMSL)	Depth	Transparency	Temperature (°C)	DO	pH
AUG			60"			

J. L. Storedahl & Sons, Inc.

Daybreak Mine

Pond _____ MEM-08 Monitoring Record – Page 5 of 5

Year 2016 Date 9/8

Pond #2 New pond reclaimed

Month	Water Level (Elev. AMSL)	Depth	Transparency	Temperature (°C)	DO	pH
SEPT			60"			

J. L. Storedahl & Sons, Inc.

Daybreak Mine

Pond _____ MEM-08 Monitoring Record – Page 1 of 6

Year 2016 Date 4/12

Pond #3 New pond reclaimed P-5						
Month	Water Level (Elev. AMSL)	Depth	Transparency	Temperature (°C)	DO	pH
APRIL			60"			

J. L. Storedahl & Sons, Inc.

Daybreak Mine

Pond _____ MEM-08 Monitoring Record – Page 2 of 6

Year 2016 Date 5/25

Pond #3 New pond reclaimed

Month	Water Level (Elev. AMSL)	Depth	Transparency	Temperature (°C)	DO	pH
MAY			600"			

J. L. Storedahl & Sons, Inc.

Daybreak Mine

Pond _____ MEM-08 Monitoring Record – Page 3 of 6

Year 2016 Date 6/19

Pond #3 New pond reclaimed

Month	Water Level (Elev. AMSL)	Depth	Transparency	Temperature (°C)	DO	pH
JUN			61"			

J. L. Storedahl & Sons, Inc.
Daybreak Mine

Pond _____ MEM-08 Monitoring Record – Page 4 of 6

Year 2011 Date 7/14

Pond #3 new pond reclaimed

Month	Water Level (Elev. AMSL)	Depth	Transparency	Temperature (°C)	DO	pH
JUL			61"			

J. L. Storedahl & Sons, Inc.
Daybreak Mine

Pond _____ MEM-08 Monitoring Record – Page 4 of 5

Year 2016 Date 8-29

Pond #3 *New pond reclaimed*

Month	Water Level (Elev. AMSL)	Depth	Transparency	Temperature (°C)	DO	pH
AUG			60"			

J. L. Stordahl & Sons, Inc.
Daybreak Mine

Pond _____ MEM-08 Monitoring Record – Page 5 of 5

Year 2016 Date 9/8

Pond _____						
Month	Water Level (Elev. AMSL)	Depth	Transparency	Temperature (°C)	DO	pH
SEPT			60"			

J. L. Storedahl & Sons, Inc.
Daybreak Mine

Pond _____ MEM-08 Monitoring Record – Page 1 of 6

Year 2016 Date 4/12

Pond #4 New pond reclaimed P-4

Month	Water Level (Elev. AMSL)	Depth	Transparency	Temperature (°C)	DO	pH
APRIL			60"			

Daybreak Mine

MEM-08 Monitoring Record – Page 2 of 6

Dr 2016 Date 5/25

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J. L. Storedahl & Sons, Inc.

Daybreak Mine

Pond _____ MEM-08 Monitoring Record – Page 3 of 6

Year 2016 Date 6/9

Pond #4 *New pond reclaimed*

Month	Water Level (Elev. AMSL)	Depth	Transparency	Temperature (°C)	DO	pH
JUN			60"			

J. L. Stordahl & Sons, Inc.
Daybreak Mine

Pond _____ MEM-08 Monitoring Record – Page 4 of 6

Year 2016 Date 7/14

Pond #4 New pond reclaimed

Month	Water Level (Elev. AMSL)	Depth	Transparency	Temperature (°C)	DO	pH
JUL			61"			

J. L. Storedahl & Sons, Inc.
Daybreak Mine

Pond _____ MEM-08 Monitoring Record – Page 4 of 5

Year 2016 Date 8/29

Pond #4 New pond reclaimed

Month	Water Level (Elev. AMSL)	Depth	Transparency	Temperature (°C)	DO	pH
AUG			60"			

J. L. Stordahl & Sons, Inc.

Daybreak Mine

Pond _____ MEM-08 Monitoring Record – Page 5 of 5

Year 2016 Date 9/8

Pond #4 New pond reclaimed

Month	Water Level (Elev. AMSL)	Depth	Transparency	Temperature (°C)	DO	pH
SEPT			60"			

**J. L. Storedahl & Sons, Inc.
Daybreak Mine**

Pond _____ **MEM-08 Monitoring Record – Page 1 of 6**

Year 2016 Date 4/12

Pond <u>#5 New pond reclaimed</u> P-7						
Month	Water Level (Elev. AMSL)	Depth	Transparency	Temperature (°C)	DO	pH
APRIL			61"			

J. L. Storedahl & Sons, Inc.
Daybreak Mine

Pond _____ MEM-08 Monitoring Record – Page 2 of 6

Year 2016 Date 5/25

Pond #5 New pond reclaimed

Month	Water Level (Elev. AMSL)	Depth	Transparency	Temperature (°C)	DO	pH
MAY			600"			

J. L. Storedahl & Sons, Inc.
Daybreak Mine

Pond _____ MEM-08 Monitoring Record – Page 3 of 6

Year 2011 Date 6/9

Pond #5 New pond reclaimed

Month	Water Level (Elev. AMSL)	Depth	Transparency	Temperature (°C)	DO	pH
JUN			60"			

J. L. Storedahl & Sons, Inc.
Daybreak Mine

Pond _____ MEM-08 Monitoring Record – Page 4 of 6

Year 2016 Date 7/14

Pond #5 New pond reclaimed						
Month	Water Level (Elev. AMSL)	Depth	Transparency	Temperature (°C)	DO	pH
JUL			61"			

J. L. Storedahl & Sons, Inc.

Daybreak Mine

Pond _____ MEM-08 Monitoring Record – Page 4 of 5

Year 2016 Date 8/29

Pond #5 New pond reclaimed

Month	Water Level (Elev. AMSL)	Depth	Transparency	Temperature (°C)	DO	pH
AUG			61"			

J. L. Storedahl & Sons, Inc.

Daybreak Mine

Pond _____ MEM-08 Monitoring Record – Page 5 of 5

Year 2016 Date 9/8

Pond #5 New pond reclaimed						
Month	Water Level (Elev. AMSL)	Depth	Transparency	Temperature (°C)	DO	pH
SEPT			60"			