

Table 1. Reclamation Status at Logan Wash Mine, March 2018

Area Number (Exhibit E & F)	Name	Approved Area	Actual Disturbed Area	Acres Reclaimed (acres/year)	Acres Released (acres/year)
1	Mine Dump ^a	30.00	13.36	13.36/2004	NR
2	Upper Mine Bench	3.00	0.74	0.74/2005	NR
3	Lower Mine Bench	3.80	2.10	2.10/2003 ^b	NR
4	Research Mine Bench and	5.00	4.26	4.26/2004	NR
5	Old Surface Process Facility	3.00	1.82	1.82/<1986	1.82/1986
6	Two Overflow Ponds	2.00	2.86	2.86/<1986	2.86/2006
7	Equipment & Parts Storage	2.55	0.67	0.67/<1986	0.67/1986
8	Ventilation Fan Site	1.30	0.41	0.41/1986	0.41/2006
9	Power Substation	0.75	0.75	0.75/1986	0.75/2006
10	Helo Pad	1.00	0.24	0.24/-	NR ^c
11	Guard Gate Area	5.00	8.30	Not to be reclaimed	Transferred/1983 ^d
12	Met Tower	1.00	0.80	0.80/<1982	0.80/2006
13	Misc. Access Roads ^e	11.5	15.58	11.78/2005	8.12/1986
14	Oil Transfer Pipeline	0.5	0.5	0.5/<1998	0.5/2006
15	Heater/Treater	3.00	2.96	2.96/1986	2.96/2006
16	Microwave Tower	1.00	0.11	0.11/<1998	0.11/2006
17	Exhaust Stack	3.00	3.00	3.00	3.00/2006
18	Logan Wash Road	55.55	53.43	Not to be reclaimed ^f	---
19	Surface Process Control	1.00	1.0	1.0/<1998	1.0/2006
20	Top Soil Storage	0.5	0.25	0.25/<1998	0.5/2006
21	Berm Material	0.25	0.33	0.25/<1986	0.33/1986
22	Heater Treater Meteorological	0.18-	0.18	0.18/<1986	0.18./1986
B1-B10	Logan Wash Road Realign	6.0	6.0	6.0/<1986	~5.0/1986
New	Soil Barrow Area (2005)	2.0	0.65	0.65/2005	0.65/2006
23	Evaporation Pond and Pipeline	14.87	14.87	5.07/<1986	NR
Total		157.75	135.17	59.84	29.41

Table 1 Notes: ^aThe Mine Dump area is to be reclaimed by establishing “vegetated islands”; the entire acreage will not be vegetated. ^bConducted hydromulch test on Lower Bench; ^cArea 10 was excavated for a pond for the landowner and is under reclamation; ^dArea 11 transferred to Chevron, not to be reclaimed; ^e See Table 2 for description of access roads, release is assumed; ^f The original reclamation plan named the Logan Wash Road as disturbed acreage, but noted that it would not be reclaimed because the road serves as a main access road to BLM and private lands; NR = Not Released

Table 2. Reclamation Status of Miscellaneous Access Roads, March 2018

Area	Estimated Disturbed Area	Acres Reclaimed (as of March 2015)	Acres Remaining to be Reclaimed
Mine Bench and Portal ^a	7.46	3.66	3.8
Old Surface Process	1.51	1.51	0.0
New Surface Process	2.17	2.17	0.0
Heater/Treater ^b	1.36	1.36	1.36
Beyond Microwave	2.33	2.33	0.0
Vicinity of the Microwave	0.75	0.75	0.0
Total	15.58	11.78	5.16^a

^a Based on Upper Access Road and Lower Bench Road, and Upper Bench Road map measurements

^b Lower Access Road was under reclamation but unsuccessful due to cattle foraging. Road is still used to access Well LWCW-1A.

Table 3. Well Abandonment Schedule, March 2018

Monitoring Well ID	Abandonment Date	Method
LW-22A	TBD	Monitoring
LW-32	TBD	To be abandoned
LW-45	TBD	To be abandoned
LW-102	2007	Cement plugged
LW-103	TBD	To be abandoned
LW-104	2007	Cement plugged
LW-108	2005	Cement plugged
LW-112	2005	Cement plugged
LW-116	TBD	To be abandoned
LW-242	2005	Cement plugged
LW-243	2007	Cement plugged
LWCW-1A	Permit Closure	Monitoring

Notes: TBD: to be determined

Table 4. 2017 Logan Wash Mine Site Monitoring Results, March 2017 to March 2018

Date	LW-002 ¹ Manometer (inches)	LW-001 ² (L-1 Portal) (gpm)	Upper Manhole ³ (gpm)	Lower Manhole ⁴ (gpm)	Other
3/16/17	NM	NM	NM	NM	Troubleshoot Evaporation Pond Leak Detection Vault sump pump; Manually pump out the Leak Detection Vault.
3/22/17	NM	NM	NM	NM	Hauled off old trailer from the Evaporation Pond area for disposal.
3/30/17	NM	NM	NM	NM	Repaired egress ladders for the Evaporation Pond; Installed new sump pump in the Leak Detection Vault.
4/6/17	NM	NM	NM	NM	Picked up miscellaneous items from the Evaporation Pond area for disposal; Installed new float switch and batteries for the Leak Detection Vault sump pump.
4/13/17	0	1.30	1.82	2.18	Launched rain gauges at the Evaporation Pond and on the Lower Bench; Conduct mine and pond monitoring.
4/17/17	NM	NM	NM	NM	Picked up miscellaneous items from the Evaporation Pond area for disposal.
4/24/17	NM	NM	NM	NM	Daylight Bench survey.
4/25/17	0	1.28	NM	NM	Site tour with GSHI.
4/26/17	NM	NM	NM	NM	Purge LWCW-1A for semi-annual sampling.
5/1/17	NM	1.29	NM	NM	Semi-annual sampling of Big Seep, mine water, retort water and Lower Manhole.
5/2/17	NM	NM	NM	NM	Semi-annual sampling of LWCW-1A.
5/3/17	NM	NM	NM	NM	Semi-annual sampling of LW-22A
5/5/17	NM	NM	NM	NM	Cleaned out various manholes along the retort water pipeline including the Upper and Lower manholes.
5/9/17	0	1.28	2.00	2.11	Conduct mine and pond monitoring; <i>P. debilis</i> status survey.
5/12/17	NM	NM	NM	NM	Survey Evaporation Pond for relining planning.
6/1/17	0	1.33	1.88	2.05	Conduct mine and pond monitoring; <i>P. debilis</i> status survey.
6/8/17	NM	NM	NM	NM	DRMS inspection.
6/27/17	NM	1.27	NM	NM	<i>P. debilis</i> status survey with CNAP and BLM.
7/3/17	NM	NM	NM	NM	Collect water sample from Evaporation Pond.

Date	LW-002 ¹ Manometer (inches)	LW-001 ² (L-1 Portal) (gpm)	Upper Manhole ³ (gpm)	Lower Manhole ⁴ (gpm)	Other
7/12/17	0	1.25	2.06	2.02	Conduct mine and pond monitoring.
7/13/17	NM	NM	NM	NM	Collect samples of solids from Evaporation Pond.
7/17/17	NM	NM	NM	NM	Meet with H&H Lining to discuss relining Evaporation Pond.
7/18/17	NM	NM	NM	NM	Repair tear in liner on the freeboard of the Settling Pond.
7/19/17	NM	NM	NM	NM	Meet with Johnson Construction to discuss relining Evaporation Pond.
8/1/17	0	1.24	2.33	2.08	Conduct mine and pond monitoring; <i>P. debilis</i> status survey.
9/7/17	0	1.12	1.97	2.02	Conduct mine and pond monitoring; <i>P. debilis</i> status survey.
9/8/17	NM	NM	NM	NM	Survey Evaporation Pond bottom slope; Inspect condition of Evaporation Pond Leak Detection System with A&E Plumbing's inspection camera.
9/22/17	NM	NM	NM	NM	Site visit with DRMS and GSHI to discuss relining plan.
9/28/17	NM	NM	NM	NM	Repair ruts in Lower Bench Road with Johnson Construction.
9/29/17	NM	NM	NM	NM	Repair ruts in Lower Bench Road with Johnson Construction; Install permanent gates for cattle crossing on Upper Access Road; Purge LWCW-1A for semi-annual sampling.
10/3/17	NM	NM	NM	NM	Semi-annual sampling of mine water, retort water and Lower Manhole.
10/10/17	NM	NM	NM	NM	Semi-annual sampling of LW-22A.
10/11/17	NM	NM	NM	NM	Semi-annual sampling of Big Seep and LWCW-1A.
10/20/17	NM	1.09	1.98	2.09	Conduct mine and pond monitoring; <i>P. debilis</i> status survey.
11/10/17	NM	NM	NM	NM	Attempt to isolate sections of Evaporation Pond for soil sampling beneath the liner in flooded areas.
11/15/2017	NM	NM	NM	NM	Collect soil samples from beneath the liner from dry areas of the pond.
11/16/17	NM	NM	NM	NM	Collect soil samples from beneath the liner from dry areas of the pond; H&H patched sampled holes.

11/21/17	NM	NM	NM	NM	Attempt to isolate sections of Evaporation Pond for soil sampling beneath the liner in flooded areas.
11/22/17	NM	NM	NM	NM	Attempt to isolate sections of Evaporation Pond for soil sampling beneath the liner in flooded areas.
12/13/17	0	1.03	1.88	2.07	Conduct mine and pond monitoring.
12/20/17	NM	NM	NM	NM	Collect background soil samples from Evaporation Pond area with Kumar Associates hollow-stem auger drill rig.
1/31/18	NM	1.10	NM	2.10	Conduct mine and pond monitoring.
2/9/18	NM	NM	NM	NM	Collect background soil samples from Evaporation Pond area with HCSI's hollow-stem auger drill rig.
2/21/18	NM	NM	NM	NM	Attempt to isolate sections of Evaporation Pond for soil sampling beneath the liner in flooded areas.
2/26/18	NM	NM	NM	NM	Prepare to isolate flooded areas for soil sampling beneath the Evaporation Pond liner.
2/28/18	NM	NM	NM	NM	Collected soil samples from beneath the Evaporation Pond liner in flooded areas. H&H Lining patched the sampled holes.
3/14/18	NM	1.03	1.68	2.28	Conduct mine and pond monitoring.

Table 4 Notes: LW-002 discharge originates at the Research Mine portal, the manometer measures head behind a concrete dam inside the sealed adit.

² LW-001 discharge originates at the L-1 portal of Logan Wash Mine and during the reporting period discharged into the Infiltration Trench. All measurements recorded by electronic flowmeter display.

³ Upper Manhole is located on Retort Water Pipeline in Logan Wash approximately 3000 ft down drainage of the Lower Dump.

⁴ Lower Manhole is located on Retort Water Pipeline immediately north of Evaporation Pond.

NM = not measured