

COSIA Members' Mining Operations: Reclamation and Disturbance Data (Cumulative to December 31, 2021) Reported by Mine Site/Facility												
Mine Site/ Facility	Status of Land (Reported in Hectares), as Defined by Alberta Environment and Parks (2007) <sup>1</sup>											
	EPEA Approved Footprint	Mine Site Footprint	Plant Site Footprint	Total Active Footprint	<sup>2</sup> Cleared	<sup>3</sup> Disturbed (Used for Mine or Plant Purposes)	<sup>4</sup> Ready for Reclamation (No Longer used for Mine or Plant Purposes)	Soils Placed (Terrestrial, Wetlands & Aquatics)	<sup>5</sup> Permanent Reclamation (Terrestrial)	<sup>5</sup> Permanent Reclamation (Wetlands & Aquatics)	<sup>6</sup> Temporary Reclamation (Terrestrial)	<sup>7</sup> Certified
Canadian Natural Horizon	18,683	11,159	470	11,629	2,809	7,692	0	40	749	79	260	0
Canadian Natural Horizon South	7,520	5,565	-	5,565	4,256	1,309	0	0	0	0	0	0
Canadian Natural Jackpine	15,072	5,420	271	5,691	704	4,725	0	-	200	5	57	0
Canadian Natural Muskeg River Mine	10,942	8,733	326	9,059	1,156	7,215	0	1	538	-	149	0
Imperial Kearn	26,496	9,731	279	10,010	1,557	8,083	-	-	62	33	276.1	0
Suncor Base Operations	23,954	22,148	318	22,466	1,795	17,984	120	121	2,398	48	-	0
Suncor Fort Hills	18,001	11,018	139	11,157	3,908	6,885	1.9	0.3	19	15.6	327	0
Synchrude Aurora North	8,569	7,085	107	7,192	439	6,192	0	9	254	0	297	0
Synchrude Mildred Lake	30,920	23,752	511	24,263	2,367	15,581	0	922	3,580	1,115	697	104
COSIA Members Totals	160,157	104,611	2,421	107,032	18,991	75,666	122	1,093	7,800	1,296	2,063	104

COSIA Members' Mining Operations: Reclamation and Disturbance Data, as Reported Annually From 2009- 2021												
Year	Status of Land (Reported in Hectares) as Defined by Alberta Environment and Parks (AEP 2007) <sup>1</sup>											
	EPEA Approved Footprint	Mine Site Footprint	Plant Site Footprint	Total Active Footprint	<sup>2</sup> Cleared	<sup>3</sup> Disturbed (Used for Mine or Plant Purposes)	<sup>4</sup> Ready for Reclamation (No Longer Used for Mine or Plant Purposes)	Soils Placed (Terrestrial & Aquatics)	<sup>5</sup> Permanent Reclamation (Terrestrial)	<sup>5</sup> Permanent Reclamation (Wetlands & Aquatics)	<sup>6</sup> Temporary Reclamation (Terrestrial)	<sup>7</sup> Certified
2009 <sup>b</sup>	134,155	63,373	4,045	67,418	18,550	41,261	913	1,093	3,503	1,237	863	104
2010 <sup>b</sup>	135,157	67,924	3,527	71,451	17,047	46,773	394	1,534	3,652	1,271	780	104
2011 <sup>b</sup>	136,647	72,598	3,566	76,164	17,050	51,334	250	1,513	3,548	1,229	1,241	104
2012 <sup>b</sup>	145,299	80,309	4,083	84,395	20,435	55,902	372	1,447	3,827	1,215	1,227	104
2013 <sup>b</sup>	144,437	85,178	4,209	89,488	19,265	61,832	181	1,543	4,178	1,269	1,244	104
2014 <sup>b</sup>	144,437	88,948	4,419	90,416	18,931	65,402	86	1,527	4,630	1,271	1,307	104
2015	142,807	89,541	4,503	94,095	18,065	66,559	294	1,305	4,892	1,272	1,632	104
2016	142,807	90,113	5,189	95,301	17,712	67,590	376	1,450	5,063	1,275	1,896	104
2017 <sup>a</sup>	142,099	94,133	4,735	98,920	18,571	70,248	234	1,070	5,498	1,276	2,022	104
2018 <sup>a</sup>	143,675	96,662	4,498	101,155	18,713	71,638	124	1,347	5,929	1,291	2,120	104
2019 <sup>c</sup>	156,525	100,042	4,502	102,924	18,763	72,541	158	1,358	6,619	1,291	2,196	104
2020 <sup>c</sup>	159,962	103,121	2,421	105,542	19,572	73,859	141	1,128	7,439	1,292	2,110	104
2021	160,157	104,611	2,421	107,032	18,991	75,666	122	1,093	7,800	1,296	2,063	104

<sup>a</sup>2017 and 2018 numbers were corrected in 2020 to remove footprint from Total because this had been erroneously included in the footprint for Canadian Natural Horizon South

<sup>b</sup>2009-2014 numbers were adjusted in 2021 to correct a transcription error

<sup>c</sup>EPEA Approved Footprint adjusted in 2022 to correct a reporting error.

<sup>1</sup>Alberta Environment and Parks (2007) categorizes and defines the Status of Land as follows: <sup>2</sup>Cleared = Cleared of Trees; <sup>3</sup>Disturbed = soils disturbed (i.e., used for mine or plant purposes); <sup>4</sup>Ready for Reclamation = no longer used for mine of plant purposes; <sup>5</sup>Permanent Reclamation = Reclaimed to Terrestrial, Wetlands or Aquatics habitat; <sup>6</sup>Temporary Reclamation= erosion control or vegetation has occurred where future disturbance is expected to occur; <sup>7</sup>Certified = Certified Reclaimed by GOA. Full Definitions are available at: <http://osip.alberta.ca/library/Dataset/Details/29>

COSIA Members' In situ Operations: Reclamation and Disturbance Data (Cumulative to December 31, 2021), Reported by Company and Project Facility																	
Status of Land (Reported in Hectares) as defined by SED 001 Alberta Energy Regulator (AER 2006)																	
COMPANY	PROJECT FACILITY	CONSTRUCTION			OPERATION				Undergoing Remediation	Ready for Reclamation	PERMANENT RECLAMATION ACTIVITIES					RECLAIMED	
		Cleared	Disturbed	Total Area under Construction	Active Operation	Inactive Operation	Temporary Land Reclamation	Total Area Operational			Pad Materials Removed	Recontoured	Soil Placed	Revegetated	Wetland Reclamation Trial	Total Area Undergoing Land Reclamation	Permanently Reclaimed
Canadian Natural	Jackfish	0.0	42.0	42.0	629.7	7.5	0.0	637.7	0.0	0.0	0.0	6.4	0.5	0.0	12.0	25.9	0.0
Canadian Natural	Kirby	14.2	3.5	17.6	284.9	0.0	114.3	399.2	0.0	0.0	0.0	1.6	6.3	0.0	7.9	93.0	6.4
Canadian Natural	Peace River Complex	60.5	237.6	298.1	255.3	87.1	39.0	380.5	1.2	39.7	0.0	2.9	9.7	18.6	31.1	4.8	12.6
Canadian Natural	Pike	6.4	10.8	17.2	103.4	3.6	0.0	107.0	0.0	0.0	1.7	0.0	1.6	21.4	0.0	24.7	5.4
Canadian Natural	Primrose Wolf Lake	101.7	155.5	257.3	662.6	11.4	606.0	1280.0	0.0	77.3	0.0	0.0	0.0	0.0	17.1	327.2	18.4
Cenovus	Christina Lake	32.3	62.4	132.1	909.9	27.9	99.9	1033.2	0.0	0.0	0.0	14.7	0.0	0.0	76.4	0.0	0.0
Cenovus	Foster Creek	70.8	117.9	160.9	904.1	7.8	52.7	963.7	0.0	0.0	0.0	2.2	44.9	0.0	48.3	30.2	0.0
Cenovus	Narrows Lake	0.0	0.0	0.0	397.4	6.4	0.0	403.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cenovus	Sunrise	5.7	14.4	20.1	456.1	0.0	2.7	458.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	0.0
ConocoPhillips	Surmont	13.1	17.8	30.9	859.0	0.0	118.7	977.4	0.0	0.0	0.0	0.0	18.1	0.0	18.1	11.6	11.6
Imperial	Aspen	240.5	96.5	337.0	100.0	0.0	72.5	172.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Imperial	Cold Lake Operations	49.0	243.2	292.1	1036.9	16.2	1591.9	2644.9	65.3	0.0	0.0	3.5	9.5	1.3	14.3	674.4	0.0
Suncor	Firebag	130.2	30.5	160.7	1184.8	0.0	1.2	1185.6	0.0	7.2	0.1	0.0	13.2	0.0	13.3	60.9	15.2
Suncor	MacKay River	14.6	21.9	36.5	422.4	13.1	0.8	436.3	0.0	14.8	0.0	0.0	0.0	0.0	0.0	6.6	1.4
COSIA Members ->		739	1054	1802	8206	181	2700	11081	67	139	2	2	106	65	263	1248	66

The categories presented here are consistent with those outlined in SED 001 (AER, 2016); however, they do not clearly articulate the difference between areas cleared of trees or those with soil disturbance past the construction category.

This is an important differentiation, as areas without soil disturbance are less impacted and likely require only revegetation to meet the definition of permanently reclaimed.

Some of the land that supports in situ operations is only ever cleared of trees, including observation wells and associated winter access roads.

COSIA Members' In situ Operations: Reclamation and Disturbance Data, as Reported Annually From 2019-2021																	
Status of Land (Reported in Hectares) as defined by SED 001 Alberta Energy Regulator (AER 2006)																	
Year	CONSTRUCTION			OPERATION				Undergoing Remediation	Ready for Reclamation	PERMANENT RECLAMATION ACTIVITIES					RECLAIMED		
	Cleared	Disturbed	Total Area under Construction	Active Operation	Inactive Operation	Temporary Land Reclamation	Total Area Operational			Pad Materials Removed	Recontoured	Soil Placed	Revegetated	Wetland Reclamation Trial	Total Area Undergoing Land Reclamation	Permanently Reclaimed	Area Certified
2019 <sup>ab</sup>	680	957	1,678	7,815	336	2,630	10,777	54	235	0	2	145	203	1	434	1,036	33
2020 <sup>ab</sup>	677	993	1,666	7,801	210	2,175	10,176	54	241	0	2	150	182	21	431	1,026	44
2021	739	1,054	1,802	8,206	181	2,700	11,081	67	139	2	2	106	65	20	263	1,248	66

<sup>a</sup>Cenovus Tucker Lake was sold in 2021. Tucker Lake was included in 2019 and 2020 values.

<sup>b</sup>The 'Wetland & Aquatics Reclamation' category was removed in 2021 and will be reported under 'Permanently Reclaimed' to be consistent with AER reporting guidelines. Values previously reported for 2019 and 2020 under the 'Wetland & Aquatics Reclamation' heading have been incorporated into the 'Permanently Reclaimed' values.