Appendix C Unit Costs for Waste Rock and Tailings

Designation	2014 Rate	2015 Rate	2016 Rate
Electrician-F/M	\$54.43	\$54.43	\$51.71
Electrician-J/M	\$49.17	\$49.17	\$46.71
Ironworker-F/M	\$53.43	\$53.43	\$50.76
Ironworker-J/M	\$47.95	\$47.95	\$45.55
Labourer-F/M	\$43.38	\$43.38	\$41.21
Labourer-J/M	\$39.77	\$39.77	\$37.78
Mechanic (ME2)	\$40.41	\$40.41	\$38.39
Mechanic (ME2)	\$40.41	\$40.41	\$38.39
Serviceman	\$33.92	\$33.92	\$32.22
Millwright-F/M	\$56.55	\$56.55	\$53.72
Millwright-J/M	\$51.06	\$51.06	\$48.51
Operator-F/M	\$51.79	\$51.79	\$49.20
Operator-R/T	\$47.36	\$47.36	\$44.99
Operator-Truck	\$44.01	\$44.01	\$41.81
Operator-Equip	\$46.29	\$46.29	\$43.98
Operator-J/M	\$50.64	\$50.64	\$48.11
Pipefitter-F/M	\$56.37	\$56.37	\$53.55
Pipefitter-J/M	\$50.86	\$50.86	\$48.32

Equipment Charge-out Rates

Cat 777	\$187.00
Bkho 375L	\$179.20
7500 ftlb	\$44.05
Cat 992D	\$245.00
Cat D10N	\$185.26
110 Ton	\$185.10
40t Toro	\$22.48
LT 9000	\$28.67
Volvo 5350B	\$77.23
D85E	\$34.65

\$34.65

\$16.57

\$111.86

D8K

RT522

966E FEL

Total 0 100,000

Productivity calculations:

Capacity Cat 992D Loader 10.0 m/3 per bucket (crushed rock)

Fill factor 90% Load factor 85%

Calculated Loac 7.7 m^3 per bucket (crushed rock)

Cycle time 1.20 minutes/cycle = 50 loads per hour max

@ 50 min/hr = 41.7 loads per hour assumed

Calculated productivity: 319 m^3 per hour

Rock required to move: 100,000 m³ Total time required to load material: 314 hours

Hours per shift 11
Shifts per day 2
Total days = 14

@ 4.3 weeks/mth = 0.5 months @ 3 mths/season = 0.2 seasons

Capacity Volvo Truck 35 m^3 (crushed rock)

Fill factor 85% Load factor 85%

Calculated Loac 25.3 m³ (crushed rock)

Cycle time 18 minutes/cycle = 3.33 loads per hour max @ 50 min/hr = 2.78 loads per hour assumed

Calculated productivity: 70 m^3 per hour, per truck

Number trucks required: 1.00 trucks, rounded up = 1 trucks

Total trucking time required: 1,424 hours

Hours per shift 11
Shifts per day 2
Total days = 65
@ 4.3 weeks/mth = 2.1
@ 3 mths/season = 0.7

Therefore One season will Complete the movement required.

SHAFT DUMI	SHAFT DUMP AREAS				L	abor	Ec	quipment	Total
Desc	Quan.	Item	Hours	Hrs Ttl	\$/hr	Cost	\$/hr	Cost	Cost
Rock Placement		100,000	m^3RO	M mat'l t	to move fr	om mill area	to shaft a	rea.	
Rip/ Stockpile		D10N Dozer D8K Dozer	100 100	100 100	\$43.98 \$43.98	\$4,398 \$4,398	\$185.26 \$34.65	\$18,526 \$3,465	\$22,924 \$7,863
Load	1	992D Loader	314	314	\$43.98	\$13,796	\$245.00	\$76,863	\$90,659
Haul and Dump spotter safety	1 2 2		1424 633 634	1424 1266 1268	\$41.81 \$32.22 \$51.71	\$59,521 \$40,796 \$65,566	\$77.23	\$109,947	\$169,468 \$40,796 \$65,566
Sub-total						\$188,474		\$208,801	\$397,275
PAG- Shaft Area				4471.4		\$188,474		\$208,801	\$397,275

PAG Rock

Total 0 200.000

Dump to open stopes to average of 500m UG- Maximum haul distance 4.2km.

Productivity calculations:

Capacity Cat 992D Loader 10.0 m^3 per bucket (crushed rock)

> Fill factor 90% 85% Load factor

Calculated Load 7.7 m^3 per bucket (crushed rock)

1.20 minutes/cycle = Cycle time 50 loads per hour max @ 50 min/hr = 41.7 loads per hour assumed

Calculated productivity: 319 m^3 per hour

Rock required to move: 200,000 m^3

Total time required to load material: 627 hours

> Hours per shift 11 Shifts per day 2 Total days = 29

0.9 months @ 4.3 weeks/mth = @ 3 mths/season = 0.3 seasons

Capacity 40t UG Truck 40 m^3 (crushed rock)

> Fill factor 95% Load factor 95%

Calculated Load 36.1 m^3 (crushed rock)

32 minutes/cycle = Cycle time 1.88 loads per hour max @ 50 min/hr = 1.56 loads per hour assumed

56 m^3 per hour, per truck Calculated productivity:

Number trucks required: 2.00 trucks, rounded up = 2 trucks

Total trucking time required: 1,773 hours

> Hours per shift 11 Shifts per day 2 Total days = 81 @ 4.3 weeks/mth = 2.7 @ 3 mths/season = 0.9

Therefore One season will Complete the movement required.

PAG TO UG					L	abor	Ed	quipment	Total
Desc	Quan.	Item	Hours	Hrs Ttl	\$/hr	Cost	\$/hr	Cost	Cost
Rock Placement		200,000	m^3RO	M mat'l t	o move fr	ı om mill area	to tails are	ea.	
Din/ Cto almila	,	D10N Dozer	100	100	\$43.98	¢4 200	\$185.26	¢40 506	\$22.024
Rip/ Stockpile	1	D8K Dozer	100 100	100	\$43.98 \$43.98	\$4,398 \$4,398	\$34.65	\$18,526 \$3,465	\$22,924 \$7,863
Load	1	992D Loader	627	627	\$43.98	\$27,592	\$245.00	\$153,725	\$181,318
Haul and Dump	2	40t Toro	1773	3546	\$41.81	\$148,244	\$22.48	\$79,707	\$227,952
UG spotters	8		800	6400	\$43.98	\$281,443			\$281,443
safety Sub-total	2		800	1600	\$51.71	\$82,734 \$548,809		\$255,424	\$82,734 \$804,233
- Cub total						40.0,000		ΨΞ00, 1.2 1	φου :,Ξου
	<u> </u>								
PAG UG1				12373		\$548,809		\$255,424	\$804,233

PAG Rock

Total 0 100,000

Productivity calculations:

Capacity Cat 992D Loader 10.0 m^3 per bucket (crushed rock)

Fill factor 90% Load factor 85%

Calculated Load 7.7 m³ per bucket (crushed rock)

Cycle time

1.20 minutes/cycle = 50 loads per hour max

@ 50 min/hr = 41.7 loads per hour assumed

Calculated productivity: 319 m^3 per hour

Rock required to move: 100,000 m³

Total time required to load material: 314 hours

Hours per shift 11
Shifts per day 2
Total days = 14

@ 4.3 weeks/mth = 0.5 months @ 3 mths/season = 0.2 seasons

Capacity Cat 777 Truck 51.5 m^3 crushed rock)

Fill factor 85% Load factor 75%

Calculated Load 32.8 m^3 (crushed rock)

Cycle time 27 minutes/cycle = 2.22 loads per hour max @ 50 min/hr = 1.85 loads per hour assumed

Calculated productivity: 61 m^3 per hour, per truck

Number trucks required: 1.00 trucks, rounded up = 1 trucks

Total trucking time required: 1,645 hours

Hours per shift 11
Shifts per day 2
Total days = 75
@ 4.3 weeks/mth = 2.5
@ 3 mths/season = 0.8

Therefore One season will Complete the movement required.

PAG to Tails					L	abor	Ed	quipment	Total
Desc	Quan.	Item	Hours	Hrs Ttl	\$/hr	Cost	\$/hr	Cost	Cost
Rock Placement		100,000	m^3RO	M mat'l t	o move fr	om mill area	to tails are	ea.	
Rip/ Stockpile	1	D10N Dozer	200	200	\$43.98	\$8,795	\$185.26	\$37,052	\$45,847
	1	D8K Dozer	200	200	\$43.98	\$8,795	\$34.65	\$6,930	\$15,725
_									
Load	1	992D Loader	314	314	\$43.98	\$13,796	\$245.00	\$76,863	\$90,659
Haul	1	Cat 777 Trucks	1645	1645	\$41.81	\$68,767	\$187.00	\$307,573	\$376,340
liaui	'	Cat 111 Trucks	1043	1043	ψ41.01	φοο, το τ	φ107.00	ψ307,373	φ370,340
Place	1	Cat D85E Dozer	314	314	\$43.98	\$13,796	\$34.65	\$10,871	\$24,667
Spotters	2		1645	3290	\$32.22	\$106,017		. ,	\$106,017
safety	2		1646	3292	\$51.71	\$170,224			\$170,224
Sub-total						\$219,967		\$439,288	\$659,255
							<u> </u> 		
PAG-Tailings Containm	ent Arc	a		9254.2		\$219,967		\$439,288	\$659,255
i Ao-railings Containin	CIIL AIE	·u		3234.2		Ψ2 13,307		Ψ-39,200	Ψ009,200

Tailing Containment Area

Cell	Depth m	Area m^2	Volume m^3
5	1.20	129,000	154,800
3	1.20	71,100	85,320
Total		200,100	240,120

Using PCL productivity calculations:

Capacity Cat 992D Loader 10.0 m^3 per bucket (heaped esker sand)

Fill factor 90% Load factor 90%

Calculated Load 8.1 m^3 per bucket (heaped esker sand)

Cycle time 0.75 minutes/cycle = 80 loads per hour max @ 50 min/hr = 66.7 loads per hour assumed

Calculated productivity: 540 m^3 per hour

Esker material required to move: 240,120 m^3 Total time required to load material: 445 hours

Hours per shift 11
Shifts per day 2
Total days = 20

@ 4.3 weeks/mth = 0.7 months @ 3 mths/season = 0.2 seasons

Capacity Cat 777 Truck 51.5 m³ (heaped esker sand)

Fill factor 90% Load factor 85%

Calculated Load 39.4 m^3 (heaped esker sand)

Cycle time 28.6 minutes/cycle = 2.10 loads per hour max @ 50 min/hr = 1.75 loads per hour assumed

Calculated productivity: 69 m^3 per hour, per truck

Number trucks required: 2.00 trucks, rounded up = 2 trucks

Total trucking time required: 1,743 hours

Hours per shift 11
Shifts per day 2
Total days = 79
@ 4.3 weeks/mth = 2.6
@ 3 mths/season = 0.9

Therefore One season will Complete the Cover required.

TAILINGS CO	NTAI	NMENT AREA			Labor Equipment				Total
Desc	Quan.	Item	Hours	Hrs Ttl	\$/hr	Cost	\$/hr	Cost	Cost
Granular Cover		240,120	m^3 es	ker mat'l	to move f	from Fingers	Lake to ta	ils area.	
Ot and a War									
Stockpiling									
Strip / Stockpile	1	D10N Dozer	200	200		\$8,795	\$185.26	\$37,052	\$45,847
	1	D8K Dozer	200	200	\$43.98	\$8,795	\$34.65	\$6,930	\$15,725
l l		0000 1 1	445	445	# 40.00	040 554	#045.00	# 400.040	# 400,400
Load	1	992D Loader	445	445	\$43.98	\$19,554	\$245.00	\$108,943	\$128,498
Haul	2	Cat 777 Trucks	1743	3486	\$41.81	\$145,757	\$187.00	\$651,925	\$797,682
riadi	_	out /// Truoko	1740	0.100	Ψ11.01	Ψίπο,νον	Ψ107.00	ψ001,020	Ψ/07,002
Place	1	Cat D85E Dozer	445	445	\$43.98	\$19,554	\$34.65	\$15,408	\$34,962
spotters	2		1743	3486	\$32.22	\$112,340		\$0	\$112,340
0.4.6.61						0044707		#000 0F0	#4.405.054
Sub-total						\$314,797		\$820,258	\$1,135,054
						1			
Fingers Lake Esker		Reclaim - contour	and ara	do guarn	,				
Filigers Lake Esker		Reciaiiii - contour	and grad	le quarry	/ 				
Sub-total	1	D10N Dozer	2400	2400	\$43.98	\$105,541	\$185.26	\$444,624	\$550,165
							1		
		<u>I</u>	<u>I</u>	<u> </u>	1	<u> </u>	<u> </u>	<u> </u>	
Tailings Containment A	rea			10662		\$420,338		\$1,264,882	\$1,685,219

Appendix D KBL Hazardous Waste Manifests



KBL Environmental Ltd. PO Box 1108 17 Cameron Rd. Yellowknife, NT X1A 2N8

CONSIGNOR / CUSTOMER SITE ADDRESS

Lupin Mines Incorporated SUITE #201 - 750 WEST PENDER STREET VANCOUVER, BC V6C 2T7

Phone: (604) 682-3366

Generator Pin #:

CUSTOMER BILLING ADDRESS

Lupin Mines Incorporated SUITE #201 - 750 WEST PENDER STREET VANCOUVER, BC V6C 2T7

Phone: (604) 682-3366

PO #:

DATE: Jul 12, 2016

NO: YK0000000410

CONSIGNEE / RECEIVER SITE ADDRESS

Yellowknife Waste Facility 17 Cameron Road PO Box 1108 Yellowknife, NT X1A 2N8

Receiver Pin #: NTR000123

Manifest #: NT09997-7

CARRIER / TRANSPORTER

Weatherby Trucking Box 1949 Yellowknife, NT X1A 2P5

Carrier Pin #: NTC000095

Fish ST	DANGE	ROUS GOOD INFO. 24 HOUR EMERGENCY PHONE # CANUTEC (613) 996-6666	PLACA	RDS REQU		BY CARRI umber Red		G. REGULATION Type	ONS)
		No.		D.G. INFOR					
D G	P.I.N.	SHIIPPING NAME / DESCRIPTION		PACKING GROUP	PA	CKING	EXPECTED QUANTITY	ACTUAL QUANTITY	UOM
х	1993	STEEL TOTE - FLAMMABLE LIQUIDS FUEL	3	III	2	07	2.00		ST
	NRL	STEEL TOTE - WASTE LEACHATE MIXED	NRL	NRL	2	07	2.00		ST
- 1	NRL	WASTE LECHATE OIL	NRL	NRL	30	07	30.00		ST
	NRS	NON REGULATED SOLIDS-EMPTY STEEL TOTE	NRS	NRS	2	07	2.00	[ST
		One oil tote was leaking, had to be transferred intoKBL totes TOTE-RECONDITIONED					2.00		EACH

DG-Dandemir	a Goods	/X-Yeel

TECHNICHIAN TIME:

3.00

TRANSPORT TIME:

0.00

GENERAL TERMS AND CONDITIONS:

All wastes must meet the specifications described on the customer's Bill of Lading sheet. Wastes that do meet the profile are subject to rejection at the Reciever site of conditional acceptance at a higher price. Customer acknoledges and accepts these conditions by signing below. Customer agrees to indemnify and save harmless KBL from any and all claims, penalties, forfeitures, and expenses incident thereto, with it may incur as a result of death, bodily injusties, to any person, destruction to any property, contamination or any adverse effects on the environment, violation of laws, regulations, or orders, caused in whole o part by the Customer failure to provide waste which meets the specification as described on this Bill of Ladino.

CONSIGNOR SIGNATURE

DRIVER SIGNATURE

ISIGNEE SIGNATURE

ABOVE NAME PRINTED upin Mins-Marolalas

ABOVE NAME PRINTED

ABOVE NAME PRINTED



KBL Environmental Ltd. PO Box 1108 17 Cameron Rd. Yellowknife, NT X1A 2N8

CONSIGNOR / CUSTOMER SITE ADDRESS

Lupin Mines Incorporated SUITE #201 - 750 WEST PENDER STREET VANCOUVER, BC V6C 2T7

Phone: (604) 682-3366

Generator Pin #:

CUSTOMER BILLING ADDRESS

Lupin Mines Incorporated SUITE #201 - 750 WEST PENDER STREET VANCOUVER, BC V6C 2T7

Phone: (604) 682-3366

PO#:

DATE: Jul 26, 2016

NO: YK0000000471

CONSIGNEE / RECEIVER SITE ADDRESS

Yellowknife Waste Facility 17 Cameron Road PO Box 1108 Yellowknife, NT X1A 2N8

Receiver Pin #: NTR000123

Manifest #: NT11050-1

CARRIER / TRANSPORTER

KBL Environmental Ltd. 17 Cameron Rd. Yellowknife, NT X1A 2N8

Carrier Pin #: NTC000124

	DANGEROUS GOOD INFO. 24 HOUR EMERGENCY PHONE # CANUTEC (613) 996-6666			AND THE SECOND		IRED E	BY CARRI	ER (PER T.D.	G. REGULATI	ONS)
		CAND I EC (613) 996-6666	- I	es D	No 🗆		ımber Re	quired	Туре	
D	P.I.N.	SHIIPPING NAME / DESCRIPTION		CLASS	D.G. INFOR		N CKING	EXPECTED	ACTUAL	110
G	F.U.N.			CLASS	GROUP		CODE	QUANTITY	QUANTITY	UOI
	NRL	WASTE LEACHATE-OIL		NRL	NRL	4	01	4.00		DRU
				i						
									:	
DG-D	angerous Go	we have a second and a second a								\neg
,	GENERAL	HIAN TIME: 0.00 TERMS AND CONDITIONS: meet the specifications described on the customer's Bill of Lading sheet. Wastes ledges and accepts these conditions by signing below. Customer agrees to inden	that do m	eat the profile						
j	t may incur as a	result of death, bodily injusries, to any person, destruction to any property, contar istomer failure to provide waste which meets the specification as described on this	mination o	x any advers						
	CONSIGNOR SIGNATURE DRIVER SIGNATURE		₹Ε			CONSIGNESSICNATURES				
OUN	D'Scover	ME PRINTED Mining = lo Lupin. ABOYE NAME PRINTED		u/Ks	5	ABC	VE NAME	Deuron'a	le	



KBL Environmental Ltd. PO Box 1108 17 Cameron Rd. Yellowknife, NT X1A 2N8

CONSIGNOR / CUSTOMER SITE ADDRESS

Lupin Mines Incorporated SUITE #201 - 750 WEST PENDER STREET VANCOUVER, BC V6C 2T7

Phone: (604) 682-3366

Generator Pin #:

CUSTOMER BILLING ADDRESS

Lupin Mines Incorporated SUITE #201 - 750 WEST PENDER STREET VANCOUVER, BC V6C 2T7

Phone: (604) 682-3366

PO #:

DATE: Aug 16, 2016

NO: YK0000000498

CONSIGNEE / RECEIVER SITE ADDRESS

Yellowknife Waste Facility 17 Cameron Road PO Box 1108 Yellowknife, NT X1A 2N8

Receiver Pin #: NTR000123

Manifest #: NT11070-9

CARRIER / TRANSPORTER

KBL Environmental Ltd. 17 Cameron Rd. Yellowknife, NT X1A 2N8

Carrier Pin #: NTC000124

	DANGE	ROUS GOOD INFO. 24 HOUR EMERGENCY PHONE #	PLACARDS REQUIRED BY CARRIER (PER						
100		CANUTEC (613) 996-6666		No 🗆		ımber Rec	uired	Туре	
		SHIIPPING NAME / DESCRIPTION	1	D.G. INFOR					
3	P.I.N.	Shill-Find Wavie / Degardi Hori	(LASS	PACKING GROUP	NO NO	CKING	QUANTITY	ACTUAL QUANTITY	UOM
	NRL	WASTE LEACHATE-OIL	NRL	NRL	3	01	3.00		DRUN
x	1993	FLAMMABLE LIQUIDS-FUEL	3	lli i	1	01	1.00		DRUM
	NRS	NON REGULATED SOLIDS-INCINERATOR ASH	NRS	NRS	2	01	2.00		DRUM
	NRL	WASTE LEACHATE-MIX	NRL	NRL	1	01	1.00		DRUM
	NRS	NON REGULATED SOLID - EWASTE	NRS	NRS	2	05	2.00		MEGAB
					1	Ţ			

DC	Departur	Conde	(Y-Vec)

TECHNICHIAN TIME:

1.00

TRANSPORT TIME:

1.00

GENERAL TERMS AND CONDITIONS:

All wastes must meet the specifications described on the customer's Bill of Lading sheet. Wastes that do me at the profile are subject to rejection at the Reciever site of conditional acceptance at a higher price. Customer acknoledges and accepts these conditions by signing below. Customer agrees to indemnify and £ ive harmless KBL from any and all claims, penalties, forfeitures, and expenses incident thereto, whi it may incur as a result of death, bodily injusties, to any person, destruction to any property, contamination or any adverse effects on the environment, violation of laws, regulations, or orders, caused in whole or part by the Customer failure to provide waste which meets the specification as described on this Bill of Ladin

CONSI	GNOR	SIGNAT	URE

DRIVER SIGNATURE

CONSIGNEE SIGNATURE

ABOVE NAME PRINTED Disovery UPIN NOWES mining.

ABOVE NAME PRINTED Jonathan Jubenuil e ABOVE NAME PRINTED



KBL Environmental Ltd. PO Box 1108 17 Cameron Rd. Yeltowknife, NT X1A 2N8

CONSIGNOR / CUSTOMER SITE ADDRESS

Lupin Mines Incorporated SUITE #201 - 750 WEST PENDER STREET VANCOUVER, BC V6C 2T7

Phone: (604) 682-3366

Generator Pin #:

CUSTOMER BILLING ADDRESS

Lupin Mines Incorporated SUITE #201 - 750 WEST PENDER STREET VANCOUVER, BC V6C 2T7

Phone: (604) 682-3366

PO#:

DATE: Aug 31, 2016

NO: YK0000000532

CONSIGNEE / RECEIVER SITE ADDRESS

Yellowknife Waste Facility 17 Cameron Road PO Box 1108 Yellowknife, NT X1A 2N8

Receiver Pin #: NTR000123

Manifest #: NT11099-8

CARRIER / TRANSPORTER

KBL Environmental Ltd. 17 Cameron Rd. Yellowknife, NT X1A 2N8

Carrier Pin #: NTC000124

	DANGE	ROUS GOOD INFO. 24 HOUR EMERGENCY PHONE #	PLACA	RDS REQU	REDE	Y CARRII	ER (PER T.D.)	G. REGULATI	ONS)
		CANUTEC (613) 996-6666	Yes 🗆	No 🗆	Νι	ımber Req	juired	Type	
ы		SHIIPPING NAME / DESCRIPTION	1	D.G. INFOR					
Ğ	P.I.N.	SHIPPING NAME/ DESCRIPTION	CLASS	PACKING GROUP	NO NO	CKING	EXPECTED QUANTITY	ACTUAL QUANTITY	UOM
	NRS	NON REGULATED SOLID - EWASTE	NRS	NRS	7	05	7.00		MEGABA
	NRS	NON REGULATED SOLIDS-PRINTER CARTRIDGES	NRS	NRS	1	05	1.00	11	MEGABA
	NRL	WASTE LEACHATE-OIL	NRL	NRL	9	01	9.00		DRUM
	NRL	WASTE LEACHATE-MIX	NRL	NRL	3	01	3.00		DRUM
	NRL	LAB PACKS-NON REGULATED LIQUID	NRL	NRL	1	01	1.00		DRUM
	NRL	NON REGULATED LIQUID-PETROLEUM GREASE	NRL	NRL	2	01	2.00	1	DRUM
x	1268	PETROLEUM DISTILLATES	3	l II	1	01	1.00		DRUM
	NRL	WASTE LEACHATE-GLYCOL	NRL	NRL	2	01	2.00		DRUM
				.				23	
DG-I	Jannemus G	innds (X _* Yes)							

TECHNICHIAN TIME:

5.00

TRANSPORT TIME:

1.00

GENERAL TERMS AND CONDITIONS:

All wastes must meet the specifications described on the customer's Bill of Lading sheet. Wastes that do meet the profile are subject to rejection at the Reciever site of conditional acceptance at a higher price. Customer acknoledges and accepts these conditions by signing below. Customer agrees to indemnify and save harmless KBL from any and all claims, penalties, forfettures, and expenses incident thereto, whi it may incur as a result of death, bodily injusties, to any person, destruction to any property, contamination or any adverse effects on the environment, violation of laws, regulations, or orders, caused in whole o part by the Customer failure to provide waste which meets the specification as described on this Bill of Lading.

J		
١	CONSIGNOR SIGNATURE	Γ

DRIVER SIGNATURE

CONSIGNEE SIGNATUR

ABOVE NAME PRINTED

Tenn Ryden

ABOVE NAME PRINTED

ABOVE NAME PRINTED

Ben AND.



KBL Environmental Ltd. PO Box 1895 17 Cameron Rd. Yellowknife, NT X1A 2P4

CONSIGNOR / CUSTOMER SITE ADDRESS

Ulu Camp

Generator Pin #:

CUSTOMER BILLING ADDRESS

Lupin Mines Incorporated SUITE #201 - 750 WEST PENDER STREET VANCOUVER, BC V6C 2T7

Phone: (604) 682-3366

PO#:

DATE: Oct 18, 2016

NO: YK0000000636

CONSIGNEE / RECEIVER SITE ADDRESS

Yellowknife Waste Facility 17 Cameron Road PO Box 1895 Yellowknife, NT X1A 2P4

Receiver Pin #:

Manifest #: NT11201-0

CARRIER / TRANSPORTER

KBL Environmental Ltd. 17 Cameron Rd. Yellowknife, NT X1A 2N8

Carrier Pin #: NTC000124

			PLACA	RDS REQU	IRED E	Y CARRI	ER (PER T.D.	G. REGULATI	ONS)
	DANGE	ROUS GOOD INFO. 24 HOUR EMERGENCY PHONE # CANUTEC (613) 996-6666	Yes 🗆			ımber Red		Type	
			T.1	D.G. INFOR	MATIO	N			
3	P.I.N.	SHIPPING NAME / DESCRIPTION	CLASS	PACKING GROUP	NO NO	CKING	EXPECTED QUANTITY	ACTUAL QUANTITY	UON
		REGULATED DANGEROUS GOODS							
	1993	FLAMMABLE LIQUIDS-FUEL NON REGULATED DANGEROUS GOODS	3	III	5	01	5.00		DRU
	NRL	WASTE LEACHATE-OIL	NRL	NRL	15	01	15.00		DRU
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1-F) энглагия	innte (X-Yaei		<u> </u>	l		<u> </u>		
	TECHNI	CHIAN TIME: 6.00	TRANSF	PORT TIME:			1.00		

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, are properly classified and packaged, have dangerous goods safety marks properly affixed or displayed on them, and are in all respect proper condition for transport according to the Transportation of Dangerous Goods Regulations.

CONSIGNOR SIGNATURE	DRIVER SIGNATURE	CONSIGNEE SIGNATURE
IMC SCALIN	1 1011/1 Source	
ABOVE NAME PRINTED	ABOVE NAME PRINTED / /	ABOVE NAME PRINTED
OLO (AMI)	1) PH Seypnor	BEN AVERN



KBL Environmental Ltd. PO Box 1108 17 Cameron Rd. Yellowknife, NT X1A 2N8

CONSIGNOR / CUSTOMER SITE ADDRESS

Lupin Mines Incorporated SUITE #201 - 750 WEST PENDER STREET VANCOUVER, BC V6C 2T7

Phone: (604) 682-3366

Generator Pin #:

CUSTOMER BILLING ADDRESS

Lupin Mines Incorporated SUITE #201 - 750 WEST PENDER STREET VANCOUVER, BC V6C 2T7

Phone: (604) 682-3366

PO #:

DATE: Jul 12, 2016

NO: YK0000000410

CONSIGNEE / RECEIVER SITE ADDRESS

Yellowknife Waste Facility 17 Cameron Road PO Box 1108 Yellowknife, NT X1A 2N8

Receiver Pin #: NTR000123

Manifest #: NT09997-7

CARRIER / TRANSPORTER

Weatherby Trucking Box 1949 Yellowknife, NT X1A 2P5

Carrier Pin #: NTC000095

Fish ST	DANGE	ROUS GOOD INFO. 24 HOUR EMERGENCY PHONE # CANUTEC (613) 996-6666	PLACA	RDS REQU		BY CARRI umber Red		G. REGULATION Type	ONS)
		No.		D.G. INFOR					
D G	P.I.N.	SHIIPPING NAME / DESCRIPTION		PACKING GROUP	PA	CKING	EXPECTED QUANTITY	ACTUAL QUANTITY	UOM
х	1993	STEEL TOTE - FLAMMABLE LIQUIDS FUEL	3	III	2	07	2.00		ST
	NRL	STEEL TOTE - WASTE LEACHATE MIXED	NRL	NRL	2	07	2.00		ST
- 1	NRL	WASTE LECHATE OIL	NRL	NRL	30	07	30.00		ST
	NRS	NON REGULATED SOLIDS-EMPTY STEEL TOTE	NRS	NRS	2	07	2.00	[ST
		One oil tote was leaking, had to be transferred intoKBL totes TOTE-RECONDITIONED					2.00		EACH

DG-Dandemir	a Goods	/X-Yeel

TECHNICHIAN TIME:

3.00

TRANSPORT TIME:

0.00

GENERAL TERMS AND CONDITIONS:

All wastes must meet the specifications described on the customer's Bill of Lading sheet. Wastes that do meet the profile are subject to rejection at the Reciever site of conditional acceptance at a higher price. Customer acknoledges and accepts these conditions by signing below. Customer agrees to indemnify and save harmless KBL from any and all claims, penalties, forfeitures, and expenses incident thereto, with it may incur as a result of death, bodily injusties, to any person, destruction to any property, contamination or any adverse effects on the environment, violation of laws, regulations, or orders, caused in whole o part by the Customer failure to provide waste which meets the specification as described on this Bill of Ladino.

CONSIGNOR SIGNATURE

DRIVER SIGNATURE

ISIGNEE SIGNATURE

ABOVE NAME PRINTED upin Mins-Marolalas

ABOVE NAME PRINTED

ABOVE NAME PRINTED



KBL Environmental Ltd. PO Box 1108 17 Cameron Rd. Yellowknife, NT X1A 2N8

CONSIGNOR / CUSTOMER SITE ADDRESS

Lupin Mines Incorporated SUITE #201 - 750 WEST PENDER STREET VANCOUVER, BC V6C 2T7

Phone: (604) 682-3366

Generator Pin #:

CUSTOMER BILLING ADDRESS

Lupin Mines Incorporated SUITE #201 - 750 WEST PENDER STREET VANCOUVER, BC V6C 2T7

Phone: (604) 682-3366

PO#:

DATE: Jul 26, 2016

NO: YK0000000471

CONSIGNEE / RECEIVER SITE ADDRESS

Yellowknife Waste Facility 17 Cameron Road PO Box 1108 Yellowknife, NT X1A 2N8

Receiver Pin #: NTR000123

Manifest #: NT11050-1

CARRIER / TRANSPORTER

KBL Environmental Ltd. 17 Cameron Rd. Yellowknife, NT X1A 2N8

Carrier Pin #: NTC000124

	DANGE	ROUS GOOD INFO. 24 HOUR EMERGENCY PHONE #		AND THE SECOND		IRED E	BY CARRI	ER (PER T.D.	G. REGULATI	ONS)
		CANUTEC (613) 996-6666	- I	es D	No 🗆		ımber Re	quired	Туре	
D	P.I.N.	SHIIPPING NAME / DESCRIPTION		CLASS	D.G. INFOR		N CKING	EXPECTED	ACTUAL	110
G	F.U.N.			CLASS	GROUP		CODE	QUANTITY	QUANTITY	UOI
	NRL	WASTE LEACHATE-OIL		NRL	NRL	4	01	4.00		DRU
				i						
									:	
DG-D	angerous Go	we have a second and a second a								\neg
,	GENERAL	HIAN TIME: 0.00 TERMS AND CONDITIONS: meet the specifications described on the customer's Bill of Lading sheet. Wastes ledges and accepts these conditions by signing below. Customer agrees to inden	that do m	eat the profile						
j	t may incur as a	result of death, bodily injusries, to any person, destruction to any property, contar istomer failure to provide waste which meets the specification as described on this	mination o	x any advers						
	CONSIGNO	DR SIGNATURE DRIVER SIGNATUR	₹Ε			COI	ISIGNE	CAULEN		
OUN	D'Scover	ME PRINTED Mining = lo Lupin. ABOYE NAME PRINTED		u/Ks	5	ABC	VE NAME	Deuron'a	le	



KBL Environmental Ltd. PO Box 1108 17 Cameron Rd. Yellowknife, NT X1A 2N8

CONSIGNOR / CUSTOMER SITE ADDRESS

Lupin Mines Incorporated SUITE #201 - 750 WEST PENDER STREET VANCOUVER, BC V6C 2T7

Phone: (604) 682-3366

Generator Pin #:

CUSTOMER BILLING ADDRESS

Lupin Mines Incorporated SUITE #201 - 750 WEST PENDER STREET VANCOUVER, BC V6C 2T7

Phone: (604) 682-3366

PO #:

DATE: Aug 16, 2016

NO: YK0000000498

CONSIGNEE / RECEIVER SITE ADDRESS

Yellowknife Waste Facility 17 Cameron Road PO Box 1108 Yellowknife, NT X1A 2N8

Receiver Pin #: NTR000123

Manifest #: NT11070-9

CARRIER / TRANSPORTER

KBL Environmental Ltd. 17 Cameron Rd. Yellowknife, NT X1A 2N8

Carrier Pin #: NTC000124

	DANGE	ROUS GOOD INFO. 24 HOUR EMERGENCY PHONE #				ER (PER T.D.)		ופאור	
100		CANUTEC (613) 996-6666		No 🗆		ımber Rec	uired	Туре	
		SHIIPPING NAME / DESCRIPTION	1	D.G. INFOR					
3	P.I.N.	Shill-Find Wavie / Degardi Hori	(LASS	PACKING GROUP	NO NO	CKING	QUANTITY	ACTUAL QUANTITY	UOM
	NRL	WASTE LEACHATE-OIL	NRL	NRL	3	01	3.00		DRUN
x	1993	FLAMMABLE LIQUIDS-FUEL	3	lli i	1	01	1.00		DRUM
	NRS	NON REGULATED SOLIDS-INCINERATOR ASH	NRS	NRS	2	01	2.00		DRUM
	NRL	WASTE LEACHATE-MIX	NRL	NRL	1	01	1.00		DRUM
	NRS	NON REGULATED SOLID - EWASTE	NRS	NRS	2	05	2.00		MEGAB
					1	Ţ			

DC	Departur	Conde	(Y-Vec)

TECHNICHIAN TIME:

1.00

TRANSPORT TIME:

1.00

GENERAL TERMS AND CONDITIONS:

All wastes must meet the specifications described on the customer's Bill of Lading sheet. Wastes that do me at the profile are subject to rejection at the Reciever site of conditional acceptance at a higher price. Customer acknoledges and accepts these conditions by signing below. Customer agrees to indemnify and £ ive harmless KBL from any and all claims, penalties, forfeitures, and expenses incident thereto, whi it may incur as a result of death, bodily injusties, to any person, destruction to any property, contamination or any adverse effects on the environment, violation of laws, regulations, or orders, caused in whole or part by the Customer failure to provide waste which meets the specification as described on this Bill of Ladin

CONSI	GNOR	SIGNAT	URE

DRIVER SIGNATURE

CONSIGNEE SIGNATURE

ABOVE NAME PRINTED Disovery UPIN NOWES mining.

ABOVE NAME PRINTED Jonathan Jubenuil e ABOVE NAME PRINTED



KBL Environmental Ltd. PO Box 1108 17 Cameron Rd. Yeltowknife, NT X1A 2N8

CONSIGNOR / CUSTOMER SITE ADDRESS

Lupin Mines Incorporated SUITE #201 - 750 WEST PENDER STREET VANCOUVER, BC V6C 2T7

Phone: (604) 682-3366

Generator Pin #:

CUSTOMER BILLING ADDRESS

Lupin Mines Incorporated SUITE #201 - 750 WEST PENDER STREET VANCOUVER, BC V6C 2T7

Phone: (604) 682-3366

PO#:

DATE: Aug 31, 2016

NO: YK0000000532

CONSIGNEE / RECEIVER SITE ADDRESS

Yellowknife Waste Facility 17 Cameron Road PO Box 1108 Yellowknife, NT X1A 2N8

Receiver Pin #: NTR000123

Manifest #: NT11099-8

CARRIER / TRANSPORTER

KBL Environmental Ltd. 17 Cameron Rd. Yellowknife, NT X1A 2N8

Carrier Pin #: NTC000124

	DANGE	ROUS GOOD INFO. 24 HOUR EMERGENCY PHONE #	PLACA	RDS REQU	REDE	Y CARRII	ER (PER T.D.)	G. REGULATI	ONS)
		CANUTEC (613) 996-6666	Yes 🗆	No 🗆	Νι	ımber Req	juired	Type	
ы		SHIIPPING NAME / DESCRIPTION	1	D.G. INFOR					
Ğ	P.I.N.	SHIPPING NAME/ DESCRIPTION	CLASS	PACKING GROUP	NO NO	CKING	EXPECTED QUANTITY	ACTUAL QUANTITY	UOM
	NRS	NON REGULATED SOLID - EWASTE	NRS	NRS	7	05	7.00		MEGABA
	NRS	NON REGULATED SOLIDS-PRINTER CARTRIDGES	NRS	NRS	1	05	1.00	11	MEGABA
	NRL	WASTE LEACHATE-OIL	NRL	NRL	9	01	9.00		DRUM
	NRL	WASTE LEACHATE-MIX	NRL	NRL	3	01	3.00		DRUM
	NRL	LAB PACKS-NON REGULATED LIQUID	NRL	NRL	1	01	1.00		DRUM
	NRL	NON REGULATED LIQUID-PETROLEUM GREASE	NRL	NRL	2	01	2.00	1	DRUM
x	1268	PETROLEUM DISTILLATES	3	l II	1	01	1.00		DRUM
	NRL	WASTE LEACHATE-GLYCOL	NRL	NRL	2	01	2.00		DRUM
				.				23	
DG-I	Jannemus G	innds (X _* Yes)							

TECHNICHIAN TIME:

5.00

TRANSPORT TIME:

1.00

GENERAL TERMS AND CONDITIONS:

All wastes must meet the specifications described on the customer's Bill of Lading sheet. Wastes that do meet the profile are subject to rejection at the Reciever site of conditional acceptance at a higher price. Customer acknoledges and accepts these conditions by signing below. Customer agrees to indemnify and save harmless KBL from any and all claims, penalties, forfettures, and expenses incident thereto, whi it may incur as a result of death, bodily injusties, to any person, destruction to any property, contamination or any adverse effects on the environment, violation of laws, regulations, or orders, caused in whole o part by the Customer failure to provide waste which meets the specification as described on this Bill of Lading.

J		
١	CONSIGNOR SIGNATURE	Γ

DRIVER SIGNATURE

CONSIGNEE SIGNATUR

ABOVE NAME PRINTED

Tenn Ryden

ABOVE NAME PRINTED

ABOVE NAME PRINTED

Ben AND.



KBL Environmental Ltd. PO Box 1895 17 Cameron Rd. Yellowknife, NT X1A 2P4

CONSIGNOR / CUSTOMER SITE ADDRESS

Ulu Camp

Generator Pin #:

CUSTOMER BILLING ADDRESS

Lupin Mines Incorporated SUITE #201 - 750 WEST PENDER STREET VANCOUVER, BC V6C 2T7

Phone: (604) 682-3366

PO#:

DATE: Oct 18, 2016

NO: YK0000000636

CONSIGNEE / RECEIVER SITE ADDRESS

Yellowknife Waste Facility 17 Cameron Road PO Box 1895 Yellowknife, NT X1A 2P4

Receiver Pin #:

Manifest #: NT11201-0

CARRIER / TRANSPORTER

KBL Environmental Ltd. 17 Cameron Rd. Yellowknife, NT X1A 2N8

Carrier Pin #: NTC000124

			PLACA	RDS REQU	IRED E	Y CARRI	ER (PER T.D.	G. REGULATI	ONS)
	DANGE	ROUS GOOD INFO. 24 HOUR EMERGENCY PHONE # CANUTEC (613) 996-6666	Yes 🗆			ımber Red		Type	
			T.1	D.G. INFOR	MATIO	N			
3	P.I.N.	SHIPPING NAME / DESCRIPTION	CLASS	PACKING GROUP	NO NO	CKING	EXPECTED QUANTITY	ACTUAL QUANTITY	UON
		REGULATED DANGEROUS GOODS							
	1993	FLAMMABLE LIQUIDS-FUEL NON REGULATED DANGEROUS GOODS	3	III	5	01	5.00		DRU
	NRL	WASTE LEACHATE-OIL	NRL	NRL	15	01	15.00		DRU
				0					
		×							
=									
1									
1-F) энглагия	innte (X-Yaei		<u> </u>	l		<u> </u>		
	TECHNI	CHIAN TIME: 6.00	TRANSF	PORT TIME:			1.00		

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, are properly classified and packaged, have dangerous goods safety marks properly affixed or displayed on them, and are in all respect proper condition for transport according to the Transportation of Dangerous Goods Regulations.

CONSIGNOR SIGNATURE	DRIVER SIGNATURE	CONSIGNEE SIGNATURE
IMC SCALIN	1 1011/1 Source	
ABOVE NAME PRINTED	ABOVE NAME PRINTED / /	ABOVE NAME PRINTED
OLO (AMI)	1) PH Seypnor	BEN AVERN



KBL Environmental Ltd. PO Box 1108 17 Cameron Rd. Yellowknife, NT X1A 2N8

OONSIGNOR/OUSTOMER SITE ADDRESS

Lupin Mines Incorporated SUITE #201 - 750 WEST PENDER STREET VANCOUVER, BC V6C 2T7

Phone: (604) 682-3366

Generator Pin #:

GUSTOMER BILLING ADDRESS

Lupin Mines Incorporated SUITE #201 - 750 WEST PENDER STREET VANCOUVER, BC V6C 2T7

Phone: (604) 682-3366

DATE: Sep 12, 2016

NO: YK0000000557

GGONS(CNEE/RECEMERS) WE ADDRESS

Yellowknife Waste Facility 17 Cameron Road PO Box 1108 Yellowknife, NT X1A 2N8

Receiver Pin #: NTR000123

Manifest #: NT 0 8883 - 0

OARRIER TIRANSPORT<mark>E</mark>R

KBL Environmental Ltd. 17 Cameron Rd. Yellowknife, NT X1A 2N8

	. (004) 002	3000	PO #:	Can	rier Pin #:	NTC00	0124			
				PLACA	RDS REQU	IRED E	Y CARRII	ER (PER T.D.C	S. REGULATI	ONS)
	DANCER	OUS GOOD INFO. 2 CANUTEG	4 HOUR EMERGENCY PHON (613) 996-6666	res 🗆	No 🛚	Nu	ımber Req	uired	Туре	
T				T.C	.G. INFOR	MATIO	N			
	P.I.N.	SHIIPF	ING NAME / DESCRIPTION	1	PACKING GROUP		CKING	EXPECTED QUANTITY	ACTUAL QUANTITY	UOM
\dagger	NRL	WASTE LEACHATE	-OII	NRL	NRL	4	01	4.00		DRUM
١	NRS	NON REGULATED		NRS	NRS	2	05	2.00		MEGAB
3-[r	oods (X-Yes)	0.00	TRANSF	PORT TIME			1.00		

it may incur as a result of death, bodily injusries, to any person, destruction to any property, contamina in part by the Customer failure to provide waste which meets the specification as described on this Bill of Lading.

CONSIGNOR SIGNATURE	DRIVER SIGNATURE	CONSIGNEE SIGNATURE
ABOVE NAME PRINTED LUPIN MINOS	ABOVENAME PRINTED J. C. P.	ABOVE NAME PRINTED / Shur Shus S

MOVEMENT DOCUMENT / MANIFEST DOCUMENT DE MOUVEMENT / MANIFESTE This Movement document/manifest conforms to all federal and provincial transport and environmental legislation. Ce document de mouvement/manifeste est conforme aux tégislations dédératé et provinciale sur l'environnement et le transport.

Movement Document / Manifest Reference No. N° de référence du document de mouvement/manifeste

NT08883-0

Registration Ro. // dimmatriculation Registration Ro. // dimmatriculation Prov. 28 Mailing address / Adresse possible for consignor for a consignor for a consignor for a constant and the information constant of the first society of the consistence of the co	1, 20-, 1 2
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MOE 04-1917 (12/13)

MOVEMENT DOCUMENT / MANIFEST DOCUMENT DE MOUVEMENT / MANIFESTE This Movement document/manifest condums to all federal and provincial transport and environmental logisation. Ce document de mouvement/manifeste est conforme aux fégislations de déraile et provinciale sur l'environnement et le transport.

Movement Document / Manifest Reference No. N° de référence du document de mouvement/manifeste

NT08883-0

leure Scheduled arrival date / Date d'arrivée prévue	ure Scheduled	Time/F	'Date d'expéditionth / Mois Da	21 Date shipped / Date d'expédition Year / Année Month / Mois Day / Jour	28	Tel. No. / N° de tél.			Signature		print) actère d'imprime	Name of authorized person (print) Nom de l'agent autorisé (caractère d'imprimerie)	Name of a Nom de l'a	t A is correct and la partie A sont	n contained in Pai renseignements à	at the information te que tous les r	cation: I certify tha expéditeur: J'attes	Generator consignor certification: I certify that the information contained in Part A is cornect and compete. Attestation du producteur / expéditeur: Jatteste que tous les renseignements à la partie A sont exacts et complets.
23		vs/ Ci-contre :	anutention spécia nt: As fo	Special handling / Manutention spéciale Attached /Gi-joint As follor														(v)
				Ogradio			onesan mar		7			Salah Salah			500 PO 10 10 10 10 10 10 10 10 10 10 10 10 10	T)	want de	(8)
Tel. No. / N° de tél.	Tel.N	ide C sont exacts et	nements à la par	Amesiatori du receptoriniare / destinatare /							-	×		-		<u> </u>		(9)
37 Name of authorized person (print) Nom de l'agent autorisé (caractère d'imprimerie)	Name of authorize Nom de l'agent aut	Receiver / consignee certification: I certify that the information contained in Part C is correct and complete. /	nee certification d in Part C is com	Receiver / consignee certification: I certify that the information contained in Part C is correct and complete	cs.	Customs code(s) Code(s) de douanes		Import Importattion	Export Exportation	Y code Code Y	H code Code H	Annexe VIII de Bâle ou Code OCDE	Code C	D or R code Code D ou R	nt Of/De	de Shipment in Envoi	N° de ligne de la notification	N° de notification
8		spécifier)	ther" (specify)	If handling code "Other" (specify) Si code de manutention « autre » (spécifier)	19		<u> </u>	code in Code du pays	National code in country of / Code du pays	16		Basel Annex VIII or		ವ	- ≅	<u> </u>	Notice Line	Notice No
																		(v)
			l _{ame} ex	1	0 m 10 m													
Shipment/Envoi 34 Decont, 35 Accepted Refused Pack Veh. Accepté Refusé Cont Véh	Handling 33 Code / Code Ac de manutention Ac	Comments 32 Commentaires de	Units 31 Lor / ou kg Unités	Quantity received Quantité reçue	Phys. state État phys.	Packaging/Contenant 9 No. / N° Codes Int ext		Units 8 ipped Lor / ou Kg rédiée Unités	7 Quantiy shipped Quantité expédiée	Packing / risk gr. i Gr. d'emballage/ de risque	UN No. 6 P	Class / Classe ⁵ Sub. class(es) Classe(s) sub.	4 Clas Sub Clas	ire	Shipping name Appellation réglementaire	Appel		Prov. code Code prov.
Registration No./Provincial ID No. N° d'immatriculation/d'id provincial	8	If waste or recyclable material to be transferred, specify intended company name/Si les dechats ou matières recyclables dowent être transférés, préciser le nom du destinataire	te material to be les dechets ou i le nom du desti	If waste or recyclab, company name/ Si I transférés, préciser				Signature :	Day/Jour S		nnée Month / Mois	Year / Année	Postal code / Code postal	Postal c		Province		City / Ville
Heure 29	Time / Heure	Day / Jou	Date received / Date de réception se Month / Mois	Year / Année		Tel. No. / N° de tél.	ne in		imerie):	Name of authorized person (print): Nom de l'agent autonié (caractères d'imprimerie) :	Name of authorized person (print): Nom de l'agent autoriré (caractère	Nom de l'a	į	()		stination	esse du lieu de de	Receiving site address / Adresse du lieu de destination
		COLING ACCOUNTS	dicase, suicase d	and the second	aiteur en vue orits à la partie	u producteur / exper renseignements insc	ie A et que les	neis ou maiieres figurent à la parti	vaire, tets qu'ils t	ionnaire / destina	de leur livraison au réceptie B sont exacts et complets.		rostal code / code posta	Tel No	FIOVILICE	Cig. vine		E-mail / Courrier électronique
		Receiving site address / Adresse du Jou de destination	race / Adrosea di	Receiving site and	or for 26	Garrier Certification : I certify that I have received waste or recyclable material from the generator / consignor for 20 delivery to the receiver / consignor as set out in Part A and that the information contained in Part B is complete and correct	tenal from the ation contained	ж recyclable ma. У that the informa	eceived waste out in Part A and	ertify that I have r onsignee as set u	rtification : l co				Point	t i i i i		Mailing address / Adresse postale
Tel. No. / N° de tél.			lectronique	E-mail / Courrier électronique	25	Zin en kindende	te fatous	Port of exit Point de sortie	<i>₹</i> *	Area eo program	rée file		ovincial ID No. n - d'id. provinci	Registration No. / Provincial ID No. N° d'Immatriculation - d'id, provincial	2 20		gnee alre prévu	Intended Receiver / consignee Réceptionnaire / destinataire prévu
Postal code / Code postal	Province			City / Ville							Trailer - Rail car No. 2 2º remorque - wagon	contratavaisin)	Postal code / Code postal	Postal	Province			City vise
			Adresse postale	Mailing address / Adresse postale	F10V24	-	litaniculano	OI NO.	Kegistian		Trailer - Rail car No. 1				-			Charles
		orise	Nom de l'entrepa	Company name / Nom de l'entreprise			(Registration No / No d'immetriculation (Rogietrati		Vehicle / Véhicule	Vehicle		-		xedition .	sse du lieu de l'exp	Shipping site address / Adresse du lieu de l'expédition
on same as in Part A bonnaire / destinataire sont les mêmes qu'à la Partie A No, complete the box below/ Non, rempir la case ci-dessous	A re sont les mêmes q ox below / Non, rem	Receiver (consignee information same as in Part A Les renseignements du réceptionnaire / destinataire sont les mêmes qu'à la Partie A Les renseignements du réceptionnaire / destinataire sont les mêmes qu'à la Partie A Les renseignements du réceptionnaire / destinataire sont les renseignements du la Partie A Les renseignements du réceptionnaire / destinataire sont les renseignements du la Partie A Les renseignements du réceptionnaire / destinataire sont les renseignements du réception de la Partie A Les renseignements du réceptionnaire / destinataire sont les mêmes qu'à la Partie A Les renseignements du réceptionnaire / destinataire sont les mêmes qu'à la Partie A Les renseignements du réceptionnaire / destinataire sont les mêmes qu'à la Partie A Les renseignements du réceptionnaire / destinataire sont les mêmes qu'à la Partie A Les renseignements du réceptionnaire / destinataire sont les mêmes qu'à la Partie A Les renseignements du réceptionnaire / destinataire sont les renseignements du réceptionnaire / destinataire sont les renseignements du réception de la Partie A Les renseignements du réceptionnaire de la Partie A Les renseignements du réc	xeiver / consignee infon renseignements du ré Yes / Oui	Receiver Les rense	ode postal	Postal code / Code postal	Province	70	City	que	E-mail / Courrier électronique	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,). / N° de tél.	Tel. No. / N° de tél	1 Donator	VIRC		E-mail / Courrier électronique
N ^o d'immatriculation - d'id. provincial	Nº d'immatriculation		Réceptionnaire / destinataire	Réception					P P P P P P P P P P P P P P P P P P P	l'entreprise	Company name / Nom de l'entreprise		Part Part Part Part Part Part Part Part	Book	Down	City Ville		Company name / Nom de l'entreprise Mailing address / Adresse postale
27	\$6.50 m	Reference Nos. of other movement document(s)/manifest(s) used / N° de rétirence des autres documents de movvement/manifestes utilisés Receiver / constitune	ce Nos. of other movement docum férence des autres documents de Receiver / consignee	Reference Nos. of othe N° de référence des aut				IID No. 1. provincial	Registration No. / Provincial ID No. N° d'immatriculation - d'Id. provincial		Carrier Transporteur		dal ID No.	Registration No. / Provincial ID No. N° d'immatriculation - d'id. provincial	Regist N° d'in		ısignor (péditeur	Generator / consignor Producteur / expéditeur
												-						





Certificate of Disposal

Date:

10-03-2016

Invoice:

OE0643

KBL Environmental Ltd. hereby certifies that the waste shipped from Lupin Mines Incorporated, on KBL Bill of Lading YK0000000557 and Manifest NT08883-0 which was received at KBL Environmental Ltd. on September 12, 2016 and has been processed, recycled/disposed of in accordance with all applicable Federal and Territorial/ Provincial Regulations.

Generator:

Lupin Mines Incorporated SUITE #201 - 750 WEST PENDER STREET VANCOUVER, BC V6C 2T7

Generator #:

Issued By:

Operations Manager KBL Environmental Ltd.

NTR000123

Yellowknife Waste Facility 17 Cameron Road PO Box 1895

Yellowknife, NT X1A 2P4





KBL Environmental Ltd. PO Box 1895 17 Cameron Rd. Yellowknife, NT X1A 2P4

CONSIGNOR / CUSTOMER SITE ADDRESS

Lupin Mines Incorporated SUITE #201 - 750 WEST PENDER STREET VANCOUVER, BC V6C 2T7

Phone: (604) 682-3366

Generator Pin #:

CUSTOMER BILLING ADDRESS

Lupin Mines Incorporated SUITE #201 - 750 WEST PENDER STREET VANCOUVER, BC V6C 2T7

Phone: (604) 682-3366

PO #:

DATE: Sep 29, 2016

NO: YK0000000603

CONSIGNEE / RECEIVER SITE ADDRESS

Yellowknife Waste Facility 17 Cameron Road PO Box 1895 Yellowknife, NT X1A 2P4

Receiver Pin #: NTR000123

Manifest #: NT11171-5

CARRIER / TRANSPORTER

KBL Environmental Ltd. 17 Cameron Rd. Yellowknife, NT X1A 2N8

Carrier Pin #: NTC000124

		PO#.		rier Pin #:					
	DANGER	COUS GOOD INFO. 24 HOUR EMERGENCY PHONE # CANUTEC (613) 996-6666	PLACA Yes 🛘	RDS REQU No □		SY CARRI Imber Rei	IER (PER T.D.) quired	3. REGULAT Type	IONS)
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G	P.I.N.	SHIIPPING NAME / DESCRIPTION	CLASS	PACKING GROUP	PA NO	CKING	EXPECTED QUANTITY	ACTUAL QUANTITY	UOM
		REGULATED DANGEROUS GOODS							
x	1993	FLAMMABLE LIQUIDS-FUEL	3	111	2	01	2.00		DRUM
x	3264	LAB PACK-CORROSIVE LIQUID ACIDIC	8	11	13	07	13.00		PAIL
x	3266	LAB PACK-CORROSIVE LIQUID BASIC	8	11	18	07	18.00		PAIL
		NON REGULATED DANGEROUS GOODS							
- [NRL	NON REGULATED LIQUIDS-PETROLEUM GREASE	NRL	NRL	60	07	60.00		KEG
	NRL	WASTE LEACHATE-OIL	NRL	NRL	2	01	2.00		DRUM
	NRS	NON REGULATED SOLID - EWASTE	NRS	NRS	2	05	2.00		MEGABA
DG-D	angerous Go		1 [<u>' </u>
	TECHNIC	HIAN TIME: 0.00	TRANSP	ORT TIME:			2,00		
į	hereby de	or CERTIFICATION: eclare that the contents of this consignment are fully a assified and packaged, have dangerous goods safety proper condition for transport according to the Trans	marks prop	erly affixed	or dis	played o	n them, and a	oing name, a are in all	are

CONSIGNOR SIGNATURE	DRIVER SIGNATURE	CONSIGNEE SIGNATURE
ABOVE NAME PRINTED	ABOVE NAME PRINTED! Jeff Beryhvide.	ABOVE NAME PRINTED BOV AVERV

DOCUMENT DE MOUVEMENT / MANIFESTE MOVEMENT DOCUMENT / MANIFEST

This Movement document/manifest conforms to all federal

and provincial environmental legislation

fédérale et provinciale sur l'environnement Ce document de mouvement/manifeste est conforme aux légistations

City / Ville

Movement Document / Manifest Reference No. N° de référence du document de mouvement/manifeste

Generator / consignor-certification: I certify that the information contained in Part A: is correct and complete. I haveby declare that the contents of this consignment and fully and accurately described above by the proper shipping arma, and its classified, packaged, marked and labelited/piacarded, and are in all respects in proper condition for transport eccording to applicable international and Shipping site address 7 Adresse du lieu de l'expédition E-mail/Courier electronique Mailing address / Adresse postale Company name / Nom de l'entreprise Mailing address / Adresse postale Go Gory 1108 E-mail / Courrier electronique Intended Receiver / consignee Réceptionnaire / destinataire prévu Receiving site address / Adresse du lieu de destination Notice No. N°de notification Producteur / expéditeur Generator / consignor 7 Cameron Road Prov. code Code prov. Pallatelle. Notice Line No N° de ligne de la notification 1 UNALLES City / Ville City / Ville MACHON ammable Shipment Envoi Shipping name llation réglementaire Of/De Alego-Province Province W. H. Not marchin Province Registration No. / Provincial ID No. N° d'immatriculation - d'id. provincial * 2 2000 Registration No. / Provincial ID No. N° d'immatriculation - d'id. provincial D or R code Code D ou R NTRO0123 Tel. No. / N° de tél. Tel. No. / No de tél. Postal code / Code postal 꽃님 후 글테링 Postal code / Code postal Postal code / Code postal 2 18 C Postal code / Code posta 6735263 VSC 217 Code C Class / Classe 5 Sub. class(es) Classe(s) sub. Basel Annex VIII or OECD Code Annexe VIII de Bâle ou Code OCDE (Marks Port of entry Point d'entrée W Attestation du transporteur : J'aiteste avoir reçu les décheis ou maiéres recyclables du producteur / expédieur en rue de leur inraison au réceptionnaire / destinalaire, tels qu'ils ligurent à la partie A et que les renseignements inscrits à la partie E-mail / Courier éléctronique Mailing address / Adresse postale 1 | 為了了到過了了多 Name of authorized person (print):

Nom de l'agent autoriré (caractères d'imprimene) B sont exacts et complets. 2º remorque - wagon Trailer - Rail car No. 2 frailer - Rail car No. 1 delivery to the receiver / consignee as set out in Part A and that the information contained in Part B is complete and correct arrier Certification : I certify that I have received waste or recyclable material from the generator / consignor for Year / Année remorque - wagon Vehicle / Véhicule Carrier Transporteur N°N∪ NNO. 9 2 H code Code H Month / Mois Informational use orly Packing / risk gr. Gr. d'emballage/ Name of authorized person (print) Nom de l'agent autorisé (caractère d'imprimerie) de risque Registration No. / Provincial ID No. N° d'immatriculation - d'id. provincial Y code Code Y ij Day/Jour Export Exportation City / Ville Quantity shipped Quantité expédiée National code in country of / Code du pays Manhaira -Registration No. / N° d'immatriculation 3 man RJuban Jefalow no de tél. Signature Import Importation Port of exit Point de sortie Units 8 Lor / ou Kg Unités Province ŧ Packaging/Contenant وال \mathcal{O} Tel. No. / N° de tél. Tel. No. / N° de tél. Customs code(s)
Code(s) de douanes Postal code / Code postal 0 0 Int-ext. H Phys. state État phys. E Prov. 0 Reference Nos. of other movement document(s)/manifest(s) used I N^{o} de référence des autres documents de mouvement/manifestes ι Special handling / Manutention speciale

L Attached /Ci-joint As follow If waste or recyclable material to be transferred, specify intended company name/ Si les dechets ou matières recyclables doivent être transférés, préciser le nom du destinataire Quantity received Quantité reçue Date shipped / Date d'expédition Year / Année | Month / Mois | Day Receiver / consignee certification: I certify that the information contained in Part C is correct and complete. / Attestation du réceptionnaire / destinataire: J'atteste que tous les renseignements à la partie C sont exacts et If handling code "Other" (specify)
Si code de manutention « autre » (spécifier) City / Ville Mailing address / Adresse postals Signature Receiving site address / Adresse du lieu de destination Company name / Nom de l'entreprise -mail / Courrier électronique Year / Année Receiver / consignee Réceptionnaire / destinataire Les renseignements du réceptionnaire / destinataire sont les mêmes qu'à la Partie A Receiver / consignee information same as in Part A Yes / Oui Date received / Date de réception ée | Month / Mois | Units 31 L or / ou kg Unités As follows/ Ci-contre No, complete the box below / Non, remplir la case ci-dessous Commentaires / Jour ☐ AM. Day / Jour Time / Heure 2 Handling 33 Code / Code de manutention ☐_{PM} Registration No. / Provincial ID No. N° d'immatriculation - d'id. provincial Name of authorized person (print)

Nom de l'agent autorisé (caractère d'imprimerie) Province Scheduled arrival date / Date d'arrivée prévue Year / Année Month / Mois Day / Jour Time / Heure Shipment / Envoi 3:
Accepted Refused
Accepté Refusé Registration No./Provincial ID No.

N° d'immatriculation/d'id provincial Tel. No. / No de tél Tel. No. / N° de tél. Postal code / Code postal D AM Pack Veh.

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City / Ville

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Attestation du producteur / expéditeur: J'atteste que tous les renseignements à la partie A sont exacts et complets. Je déclare que le contenu de ce chargement est décrit ci-dessus de façon complète et exacte par la désignation officielle de transport et qu'il est

Signature

xonvenablement classé, emballé, marqué, éliquelé, muni de plaques-éliqueltes et à tous égards bien conditionné pour être transporté conformément aux réglementations internationales et nationales applicables.

national governmental regulations.

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Gardée par l'expéditeur Retained by Consignor Copy / Copie 2 (green / verte

MOVEMENT DOCUMENT / MANIFESTE DOCUMENT DE MOUVEMENT / MANIFESTE

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Movement Document / Manifest Reference No. No de référence du document de mouvement/manifeste

Generator / consignor Producteur / expéditeur	Registration No. / Provincial ID No. N° d'immatriculation - d'id. provincial	B Carrier	Registration No. / Provincial ID No. N° d'immatriculation - d'id. provincial	ncial ID No. d'id. provincial	23	Reference Nos. of other movement document(s)/manifest(s) used / N° de déference des autres documents de mouvement/manifestes utilisés	/manifest(s) used / ement/manifestes utősés		27
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City / Ville	Province Postal code / Code postal	Trailer - Rail car No. 2 2º remorque - wagon	7.7			City / Ville	Province	e Postal code / Code postal	stal
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E-mail / Courrier électronique	J.	Name of authorized person (print): Nom de l'agent autoriré (caractères d'imprimene):	(print): ractères d'imprimerie) :		Tet. No. / N° de tél.	Date received / Date de réception Year / Année Month / Mois	ception Day / Jour		29
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City / Ville	Province Postal code / Code postal	Tear / Attitiee Month / Moss	Day) Jour	ţ		company name/ SI les dechels ou malteres recyclables doivent être transférés, préciser le nom du destinataire	res recyclables doivent être fre	e N° d'immatriculation/d lo provincial	ovincial
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(E)	Agent.)		caucino,	Signature		N° de tél.	
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Movement Document / Manifest Reference No. N° de référence du document de mouvement/manifeste

gnor Copy / Copie 2 (green / verte)	Retained by Consignor Gardée par l'expéditeur	porté .	icielle de transport et qu'il es n conditionné pour être tran:	le content de ce chargement est décrit ci-dessus de laçon complète et exacte par la désignation officielle de transport et qu'il est convenablement classé, embellé, marqué, étiqueté, muni de plaques-étiquettes et à tous égards bien conditionné pour être transporté confirmément aux réglementations internationales et nationales applicables.	le contenu de ce chargement est décrit ci-dessus de laçon complète et exact convenablement classé, embalté, marqué, étiqueté, muni de plaques-étiquet conformément aux réglementations internationales et nationales applicables.
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rence Nos of other movement document(s)/navritest(s) used / or difference des autres documents de mouvement/manifestes ut Receiver / consignee	23	Carrier Transporteur Registration No. / Provincial ID No. N° d'immatriculation - d'id. provincial N° COURT 24	<u> </u>	Registration No. / Provincial ID No. N° d'immatriculation – d'id. provincial NUC3 1 100 4 7	A Generator / consignor Producteur / expéditeur

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DOCUMENT DE MOUVEMENT / MANIFESTE **MOVEMENT DOCUMENT / MANIFEST**

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A Generator / consignor Registration No. / Provincial ID No. 1 Producteur / expéditeur	Carrier Registration No. / Provincial ID No. N° d'immainculation - d'id. provincial	23 Reference Nos. of other movement document(s)/manifest(s) used / N° de réference des autres documents de mouvement/manifest(s) utilisés
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Destinataire à l'expéditeur Consignee to Consignor

Copy / Copie 6 (brown / brun)





Certificate of Disposal

Date:

10-20-2016

Invoice:

OE0679

KBL Environmental Ltd. hereby certifies that the waste shipped from Lupin Mines Incorporated, on KBL Bill of Lading YK0000000603 and Manifest NT111715 which was received at KBL Environmental Ltd. on September 29, 2016 and has been processed, recycled/disposed of in accordance with all applicable Federal and Territorial/ Provincial Regulations.

Generator:

Lupin Mines Incorporated SUITE #201 - 750 WEST PENDER STREET VANCOUVER, BC V6C 2T7

Generator #:

Issued By

Operations Mariager
KBL Environmental Ltd.

NTR000123

Yellowknife Waste Facility 17 Cameron Road PO Box 1895

Yellowknife, NT X1A 2P4







Certificate of Disposal

Date:

11-09-2016

Invoice:

OE0681

KBL Environmental Ltd. hereby certifies that the waste shipped from Lupin Mines Incorporated, on KBL Bill of Lading YK000000637 and Manifest NT11202-8 which was received at KBL Environmental Ltd. on October 18, 2016 and has been processed, recycled/disposed of in accordance with all applicable Federal and Territorial/ Provincial Regulations.

Generator:

Lupin Mines Incorporated SUITE #201 - 750 WEST PENDER STREET VANCOUVER, BC V6C 2T7

Generator #:

Issued By

Operations Manager KBL Environmental Ltd.

NTR000123

Yellowknife Waste Facility 17 Cameron Road PO Box 1895

Yellowknife, NT X1A 2P4



KBL Environmental Ltd. PO Box 1895 17 Cameron Rd. Yellowknife, NT X1A 2P4

CONSIGNOR / CUSTOMER SITE ADDRESS

Lupin Mines Incorporated SUITE #201 - 750 WEST PENDER STREET VANCOUVER, BC V6C 2T7

Phone: (604) 682-3366

Generator Pin #:

CUSTOMER BILLING ADDRESS

Lupin Mines Incorporated SUITE #201 - 750 WEST PENDER STREET VANCOUVER, BC V6C 2T7

Phone: (604) 682-3366

PO#:

DATE: Oct 18, 2016

NO: YK0000000637

CONSIGNEE / RECEIVER SITE ADDRESS

Yellowknife Waste Facility 17 Cameron Road PO Box 1895 Yellowknife, NT X1A 2P4

Receiver Pin #: NTR000123

Manifest #: NT11202-8

CARRIER / TRANSPORTER

KBL Environmental Ltd. 17 Cameron Rd. Yellowknife, NT X1A 2N8

Carrier Pin #: NTC000124

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1.00 TRANSPORT TIME:

CONSIGNOR CERTIFICATION:

TECHNICHIAN TIME:

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, are properly classified and packaged, have dangerous goods safety marks properly affixed or displayed on them, and are in all respect proper condition for transport according to the Transportation of Dangerous Goods Regulations.

CONSIGNOR SIGNATURE	DRIVER SIGNATURE	CONSIGNEE STONATURE
ABOVE NAME PRINTED	ABOVE NAME PRINTED JOST GEWOND	ABOVE NAME PRINTED BEN AYERV

fédérale et provinciale sur l'environnement.

Ce document de mouvement/manifeste est conforme aux tégislations

and provincial environmental legislation.

This Movement document/manifest conforms to all federal

Movement Document / Manifest Reference No. N° de référence du document de mouvement/manifeste

Generator / consignor certification: Lectify that the information contained in Part A is cornect and complete. I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, that dead and labelled/placarded, and are in all respects in proper contition for transport according to applicable international and 3 3 3 3 3 3 City / Ville Intended Receiver / consignee
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MOVEMENT DOCUMENT / MANIFESTE DOCUMENT DE MOUVEMENT / MANIFESTE

This Movement document/manifest conforms to all federal and provincial environmental legislation. Ce document de novement/manifeste est conforme aux législations fédérale et provinciale sur l'environnement.

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Consignee to Consignor Destinataire à l'expéditeur

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Certificate of Disposal

Date:

11-18-2016

Invoice:

OE0690

KBL Environmental Ltd. hereby certifies that the waste shipped from Lupin Mines Incorporated, on KBL Bill of Lading YK0000000664 and Manifest N/R which was received at KBL Environmental Ltd. on October 28, 2016 and has been processed, recycled/disposed of in accordance with all applicable Federal and Territorial/ Provincial Regulations.

Generator:

Lupin Mines Incorporated SUITE #201 - 750 WEST PENDER STREET VANCOUVER, BC V6C 2T7

Generator #:

Manager

Operations Manager

KBL Environmental Ltd.

NTR000123

Yellowknife Waste Facility 17 Cameron Road PO Box 1895

Yellowknife, NT X1A 2P4





KBL Environmental Ltd. PO Box 1895 17 Cameron Rd. Yellowknife, NT X1A 2P4

CONSIGNOR / CUSTOMER SITE ADDRESS

Lupin Mines Incorporated SUITE #201 - 750 WEST PENDER STREET VANCOUVER, BC V6C 2T7

Phone: (604) 682-3366

Generator Pin #:

CUSTOMER BILLING ADDRESS

Lupin Mines Incorporated SUITE #201 - 750 WEST PENDER STREET VANCOUVER, BC V6C 2T7

Phone: (604) 682-3366

PO#:

CONSIGNEE / RECEIVER SITE ADDRESS

Yellowknife Waste Facility 17 Cameron Road PO Box 1895

DATE: Oct 28, 2016

Yellowknife, NT X1A 2P4

Receiver Pin #: NTR000123

Manifest #: N/R

NO: YK0000000664

CARRIER / TRANSPORTER

KBL Environmental Ltd. 17 Cameron Rd. Yellowknife, NT X1A 2N8

Carrier Pin #: NTC000124

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CONSIGNOR CERTIFICATION:

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, are properly classified and packaged, have dangerous goods safety marks properly affixed or displayed on them, and are in all respect proper condition for transport according to the Transportation of Dangerous Goods Regulations.

CONSIGNOR SIGNATURE	DRIVER SIGNATURE	CONSIGNEE SIGNATURE
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Appendix E

LMI Follow-up Data and Information to the NWB and KP

MEMO FOR LUPIN MINES INCORPORATED

Date: October 17, 2016

To: Dave Hohnstein, Nunavut Water Board (NWB) and Richard Cook, Knight Piesold (KP)

From: Karyn Lewis

Cc: Patrick Downey and Mark Sander

Re: Follow-up Data and Information resulting from site visit of 6th and 7th October 2016

Dear Dave,

Further to the recent visit by all parties, NWB, KP (on behalf of the NWB), Indigenous and North Affairs (INAC), ARCADIS (on behalf of INAC), Lupin Mines Incorporated (LMI), and Golder Associates (on behalf of LMI), please find responses to several questions and additional data as requested. Should the NWB or KP require any additional information or clarification please feel free to contact me at your convenience. LMI have endeavoured to answer and provide the data based on the discussions and issues arising from the recent teleconferences between INAC, NWB and LMI and those discussed during the follow-up site visit.

1. Landfarm

The first phase Landfarm is now engineered and constructed (see attached photos – Appendix A). The Landfarm is now ready for treatment of contaminated soils. As discussed in the meetings at site, LMI is basing the treatment amounts on the maximum amount estimated in the 2006 Morrow report which is 40,000m³. The design and construction of this unit amounted to just under \$75,000 including engineering (\$30,000) and shipment of liner to site (see attached – Appendix A). No further engineering will be required but geotechnical inspections will be required on an annual basis. Therefore the estimated costs to construct 4 additional cells for the Landfarm is estimated at \$180,000. This cost will be reflected in the updated estimate,

The costs to move the contaminated soil to the facility is per the attached (Appendix B) and is based on the areas identified in the aforementioned Morrow report. The soil will be moved by equipment currently available on site and using the diesel at site. Please note the difference in unit cost between on-site Landfarm treatment and that of the 2014 estimate which was off-site treatment.

2. Tailings Cover

As discussed the area of tailings cover of 241,328m² is that from the actual drawings and confirmed from site surveys. There is a small quantity of tailings material in cell #4 and this was accounted for and marked out with orange markers as observed in the field during the site visit. Also as discussed there may be an additional small amount within another area of cell 4 and LMI will endeavour to determine this amount but it is not deemed significant. The costs that were included in the LMI 2014 estimate were based on actual costs from the placement of cover (see attached Rate and Productivity – Appendix C). These costs were modified with escalation factors for the 2014 estimate.

It is important to note that based on work completed during 2016 the current unit rate is actually below the 2014 estimated rates by almost \$1.00/m².

However LMI will leave the 2014 rate as a safety factor for this area of the estimate. Also from the site visit dam M is now fully repaired and passed by the independent engineer (will be provided as soon as we have the final or final draft which we anticipate having this week).

See below for links to the I. Holubec Consulting Inc. report (Parts 1-5) called Closure Plan for Tailings Containment Area as well the Golder Report - Studies Related to Water Licence Requirements and in Support of Reclamation and I. Holubec Consulting Reports, Volumes I and II - Geotechnical, seepage and Water Balance in the Tailings Containment Area.

3. Spillways

As observed from the site visit the two spillways at Dam 1 and Dam 2 will NOT be engineered spillways and all protective rip rap will be recovered and placed from within the dam areas and will NOT be drill blasted and hauled to these areas. LMI now estimate that the cost to complete these openings in the dams will be \$20,400.

4. Pipe Removal

As discussed in the site visit the cost to remove the tailings and water piping was to remove all such pipe from site and dispose of within a facility in Yellowknife with associated disposal costs. The renewed water licence includes a landfill permit. The new cost as estimated by an independent engineer is \$110,346 as opposed to the \$343,990 from the 2014 submission.

5. PAG

The PAG quantities are based on the maximum estimate from the Morrow report (see below for a link to documents). The 2014 LMI estimate was based on disposal of the PAG in three separate areas- main and ventilation shaft; tailings area and underground (see attached Rate and Productivity – Appendix C). In 2016, LMI completed excavation of one area deemed to have significant PAG rock-the old "Ballfield". We removed over approximately 6,000m³ and placed this material in tailings cell #5. The unit rate for this work was approximately 2.95/m³ well below the 2014 estimate. Furthermore as observed from the site visit only a small amount of surface cover even appeared to have sulphides. Below this no such rock was identified. Therefore LMI believe that the Morrow report has greatly over estimated the PAG rock on site. However until LMI have completed the Phase 2 ESA update we will continue to use the 400,000 m³ amount per Morrow and the rates in the 2014 estimate which will more than cover this work based on the removal and disposal of PAG rock in 2016.

6. Fuel

The fuel on site has been tested and meets specifications. No further comment from LMI at this stage.

7. Equipment

As observed on site LMI has significant usable equipment on-site for the work contemplated for closure. LMI has also estimated that an additional 10 pieces world be required and shipped to site on the first ice road.

8. Hazardous waste

LMI has removed significant hazardous waste from site since completion of the 2014 closure estimate. We are also still awaiting the hazardous waste documentation from KBL in Yellowknife, once we have this documentation we forward onto you. As an overview, in 2015, we backhauled approx. 130,000lbs of waste from site. Of the 130,000lbs of waste backhauled approx. 90,000lbs was hazardous waste. In 2016, in May we backhauled approx. 1,100lbs of waste, in June we backhauled approx. 90,000lbs of hazardous waste and 2,000lbs of waste, in July we backhauled approx. 51,500lbs of hazardous waste and 1,500lbs of waste, August we backhauled approx. 27,000lbs of hazardous waste and 3,500lbs of waste. We do not have the current numbers for September or October but we should be able to provide these numbers to you shortly.

9. Buildings

LMI would like to make note that in their cost estimate they used a rate of \$128/m² for 24,711m² for removal of buildings which reflects cleanup, decontaminate, teardown, cutting (where appropriate) and also concrete breakup and dozing for a total of \$3,163,000. To be conservative, LMI also included a secondary cost for hazardous materials which includes oil, fuel, glycol and asbestos at \$22.80/m² for 8,490m² (\$193,572) noting much of this material has been shipped off site since the 2014 estimate was submitted. It should also be noted that, LMI included an additional line item for 25,000m² of concrete slab removal at 7.28/m² (\$181,955). Likely this concrete will be left in place and covered graded and contoured.

INAC has used the same \$128/m² as LMI for building removal instead of the rates in RECLAIM 7 (between \$40-\$60). INAC has then added an additional \$1,130,689 to decontaminate oil, fuel, glycol, asbestos, offices, warehouse and accommodations which is already included the \$128/m².

10. Indirects

Engineering

The main components of the 2014 LMI engineering estimate were as follows;

- Design of a landfarm system (now completed)
- Final review and design of location of thermistors for cells 3, 4 and 5
- Design of the final tailings water management system including all instrumentation- As noted there will be no structural design required for the "spillways".

- Final work on the Stage 2 ESA including seep sampling, assays and design for PAG quantification.
- Final design criteria for closure of landfill system, Sewage ponds including sampling systems/piezometers.
- Completion of Detailed Request for Quotation (RFQ) packages for closure contracts including scope of work details, adjudication and final award.

The general estimated costs for the above are attached in Appendix D.

Project Management

The main components of the Project Management area in the 2014 LMI estimate are as follows:

- Onsite management to ensure work is being completed as per the agreed contracts and specifications. The 2014 estimate assumed that there would be a requirement for 2 PM supervisors- one for the outside areas such as tailings etc and one for the main plant.
 There would be 4 on site at any time 2 on day shift and 2 on night shift.
- QA/QC including sampling and analysis
- Camp manager
- On site administration for billings/accounts payable, communication and logistics.
- Of site administration for above including flight coordination etc.
- Internet, phones and sat phones- Note all hard ware for these systems are on site.
 HS&E officer and assistants- Please note that the areas of tailings cover and PAG removal include Safety personnel

11. Document Links

- NWB Water Licence 2AM-LUP1520 ftp://ftp.nwboen.ca/registry/2%20MINING%20MILLING/2A/2AM%20-%20Mining/2AM-LUP1520%20LMI/4%20LICENCE/1%20LICENCE/2015%20Amend%20Renew/150821%202AM-LUP1520%20Reissuance-Renewal%20and%20Amended%20Licence-OSJE.pdf
- NWB Reason for Decision ftp://ftp.nwboen.ca/registry/2%20MINING%20MILLING/2A/2AM%20-%20Mining/2AM-LUP1520%20LMI/4%20LICENCE/1%20LICENCE/2015%20Amend%20Renew/150511%202AM-LUP1520%20Licence%20Decision-OTME.pdf
- Morrow Environmental Phase 1 and Phase 2 Environmental Site Assessment Lupin Mine Site

 Volume 1 <a href="mailto:ftp://ftp.nwb-oen.ca/registry/2%20MINING%20MILLING/2A/2AM%20-%20Mining/2AM-LUP1520%20LMI/3%20TECH/9%20MONITORING%20(J)/Environmental%20Site%20Assessment/060921%202AM-LUP0008%20Phase%201%20and%202%20ESA%20-%20Vol.%201-ILAE.pdf

Volume 2 - ftp://ftp.nwb-oen.ca/registry/2%20MINING%20MILLING/2A/2AM%20-%20Mining/2AM-

<u>LUP1520%20LMI/3%20TECH/9%20MONITORING%20(J)/Environmental%20Site%20Assessment/</u>060921%202AM-LUP0008%20Phase%201%20and%202%20ESA%20-%20Vol.%202-ILAE.pdf

• <u>I. Holubec Report – Closure for Tailings Containment Area</u>

Part 2 - Photos - ftp://ftp.nwb-oen.ca/registry/2%20MINING%20MILLING/2A/2AM%20-%20Mining/2AM-LUP1520%20LMI/3%20TECH/10%20A%20and%20R%20(I)/2012/043013 2AM-LUP0914%20Int%20Annual%20Report%20A%20and%20R%20Plan%20App%204%20-%20AppBb-ILAE.pdf

Part 3 – Supporting Figures – ftp://ftp.nwb-

oen.ca/registry/2%20MINING%20MILLING/2A/2AM%20-%20Mining/2AM-

LUP1520%20LMI/3%20TECH/10%20A%20and%20R%20(I)/2012/043013 2AM-

<u>LUP0914%20Int%20Annual%20Report%20A%20and%20R%20Plan%20App%204%20-%20AppBc-ILAE.pdf</u>

Part 4 – Ground Temperatures – ftp://ftp.nwb-

oen.ca/registry/2%20MINING%20MILLING/2A/2AM%20-%20Mining/2AM-

LUP1520%20LMI/3%20TECH/10%20A%20and%20R%20(I)/2012/043013 2AM-

<u>LUP0914%20Int%20Annual%20Report%20A%20and%20R%20Plan%20App%204%20-%20AppBd-ILAE.pdf</u>

Part 5 – Dams and Earth Structures Stability Analysis - ftp://ftp.nwb-

oen.ca/registry/2%20MINING%20MILLING/2A/2AM%20-%20Mining/2AM-

LUP1520%20LMI/3%20TECH/10%20A%20and%20R%20(I)/2012/043013_2AM-

 $\underline{\mathsf{LUP0914\%20Int\%20Annual\%20Report\%20A\%20and\%20R\%20Plan\%20App\%204\%20-\%20AppBe-ILAE.pdf}$

- Golder Report Studies Related to Water Licence Requirements and in Support of Reclamation
 Planning ftp://ftp.nwb-oen.ca/registry/2%20MINING%20MILLING/2A/2AM%20 %20Mining/2AM-LUP1520%20LMI/3%20TECH/10%20A%20and%20R%20(I)/2012/043013_2AM-LUP0914%20Int%20Annual%20Report%20A%20and%20R%20Plan%20App%204%20-%20AppC-ILAE.pdf
- I. Holubec Report Volume I Geotechnical, Seepage and Water Balance <a href="ftp://ftp.nwb-oen.ca/registry/2%20MINING%20MILLING/2A/2AM%20-%20Mining/2AM-LUP1520%20LMI/3%20TECH/10%20A%20and%20R%20(I)/2012/043013_2AM-LUP0914%20IntAnnual%20Report%20%20A%20and%20R%20Plan%20App%204%20-%20AppEb-ILAE.pdf

• Geotechnical Reports:

There are numerous annual geotechnical reports and so I have included the link to the geotechnical reports for years 1991-2015 as well as links to the Waste Management, Tank Farm and Sewage Pond Dams geotechnical reports. As soon as we have the final or final draft of the 2016 Annual Geotechnical Report we will forward onto. We anticipate that we will have the report this week.

1997-2015 - Annual Geotechnical Reports: ftp://ftp.nwb-

oen.ca/registry/2%20MINING%20MILLING/2A/2AM%20-%20Mining/2AM-

<u>LUP1520%20LMI/3%20TECH/4%20WASTE%20DISP%20(D)%20(E)/D%206(g)%20Annual%20Geotechnical%20Inspection/</u>

Waste Management Geotechnical Report - ftp://ftp.nwb-

oen.ca/registry/2%20MINING%20MILLING/2A/2AM%20-%20Mining/2AM-

<u>LUP1520%20LMI/3%20TECH/4%20WASTE%20DISP%20(D)%20(E)/D%206(g)%20Annual%20Geotechnical%20Inspection/2015/151201%202AM-</u>

 $\underline{\mathsf{LUP1520\%201CL008\%20002\%202015Waste\%20Mgmt\%20Facilities\%20Geotechnical\%20Inspect}\\ \underline{\mathsf{ion\%20FNL-IAAE.pdf}}$

Sewage Pond Dams Geotechnical Inspection - ftp://ftp.nwb-

oen.ca/registry/2%20MINING%20MILLING/2A/2AM%20-%20Mining/2AM-

<u>LUP1520%20LMI/3%20TECH/0%20SCOPE%20ENFORCE%20(A)/1%20INSPECTION/2014/141029</u> %202AM-

<u>LUP0914%202014%20Sewage%20Pond%20Dams%20Geotechnical%20Inspection%201CL008%2</u>0002%20PMH%20AT%2020141020-ILAE.pdf

Lupin Fuel Tank Farm Geotechnical Inspection -ftp://ftp.nwb-

oen.ca/registry/2%20MINING%20MILLING/2A/2AM%20-%20Mining/2AM-

<u>LUP1520%20LMI/3%20TECH/0%20SCOPE%20ENFORCE%20(A)/1%20INSPECTION/2014/141029</u> %202AM-

<u>LUP0914%20Addendum%20Memo%202014%20Lupin%20Fuel%20Tank%20Farm%20Inspection</u> %201CL008%20002%2010302014%20FINAL-ILAE.pdf

Appendices:

Appendix A Landfarm Drawings and Photos

Appendix B Contaminated Soil from Main Tank to Landfarm and Contaminated Soil from the

Satellite Tank Farm to the Landfarm

Appendix C LMI Rates and Productivity for PAG to Shaft, PAG to UG, PAG to Tails, Tailings Cover

Appendix D Engineering

Appendix D Asbestos Results

If you require any further documentation or have any questions please feel to contact at klewis@elginmining.com or at 778-386-7340.

APPENDIX A

LANDFARM DRAWINGS, PHOTOS AND COSTS

Site Contaminated S						abor		quipment	Total
Desc	Quan.	Item	Hours	Hrs Ttl	\$/hr	Cost	\$/hr	Cost	Cost
Liner Material Shipping Offload Liner Total									\$9,000 \$5,000 \$500 \$14,500
Construction		40	m^3 un	derliner i	 material 				
Load	1	992D Excavator	4	4	\$43.98	\$176	\$245.00	\$980	\$1,156
Haul and Dump Labourers to spread/comp in 3 cells	1 6		4 60	4 360	\$41.81 \$43.98	\$167 \$15,831	\$77.23	\$309	\$476 \$15,831
Sub-total						\$16,174		\$1,289	\$17,463
Leak detection pipe Material Installation Liner Installation	4 4	at site	60 12	240 48		\$10,554 \$2,111			\$10,554 \$2,111
Site Contaminated soil				656		\$16,174		\$1,289	\$44,628



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September 16, 2016

Project #: 931-1

Lupin Mine Incorporated
Suite 201 – 750 West Pender Street
Vancouver, BC V6C 0A3

Attn: Karyn Lewis

Project Manager

Dear Karyn:

Subject: As-built Document for the Pilot Landfarm at Lupin Mine

INTRODUCTION

Lupin Mine Incorporated (LMI) has commissioned Norwest Corporation (Norwest) to provide the design, as-built documentation, and operational guidance for the pilot landfarm at the Lupin Mine. The landfarm is designed to remediate the hydrocarbon-contaminated soil in the satellite tank farm using biological treatment. The landfarm is designed with primary and secondary containment to prevent contamination of the surrounding environment. This document provides the as-built documentation of the landfarm design and work completed on the structure.

SITE DESCRIPTION

The Lupin Mine is located on the northwest shore of Contwoyto Lake, approximately 400km northeast of Yellowknife, Northwest Territories. The mine site consists of a mill, office, camp and supporting facilities, airstrip, fuel storage infrastructure, airstrip, and the tailings containment area.

The landfarm is located on the footprint of the decommissioned paste backfill plant, located south of the mill. The landfarm utilizes the concrete foundation of the plant as secondary containment and a prefabricated geosynthetic liner as primary containment.

ROLE AND RESPONSIBILITIES

Table 1 shows the roles and responsibilities of key personnel involved in the design and construction work of the landfarm at Lupin Mine.



Table 1: Roles and Responsibilities

Role and Responsibilities	Personnel (Company)
Owner and Operator	Lupin Mine Incorporated (LMI)
Construction Manager	Dave Vokey (LMI)
Engineer of Record (EOR)	Alvin Tong (Norwest)
	Alvin Tong (Norwest)
Design Engineers	Jim McKinley (Norwest)
	Sara Wilkins (Norwest)
Quality Control (QC)	Dave Vokey (LMI)
Liner Supplier	Layfield Environmental System for geosynthetics liner
Quality Assurance (QA)	Alvin Tong (Norwest)

DESIGN

A set of professionally stamped landfarm drawings were submitted to LMI in July 2016. The landfarm design is based on the LMI concept submitted to the Nunavut Water Board (NWB) in December 2014 (LMI 2014). The intent of the landfarm is to provide a contained facility and utilize biological treatment to remediate hydrocarbon-contaminated soil on site. Norwest built upon the original concept by evaluating the landfarm hydrology and providing detailed engineering drawings and specifications. The landfarm design uses the existing concrete foundation of the decommissioned paste backfill plant as secondary containment and a geosynthetic liner as primary containment of the contaminated soil.

The concrete foundation is a reinforced slab with an estimated minimum thickness of 0.25m and a surrounding footing that ranged from 0.25m to 1.8m high. The design intent was to use the impermeable slab and the footing to create secondary containment for any potential leakage through the landfarm liner. Locally available esker sand was used to construct a containment berm and sump. The earthen berm is approximately 1.3m in height with the floor graded to drain toward the sump situated at the west side of the facility. A reinforced, UV-protected liner was deployed over the finished subgrade to serve as primary containment.

Hydrological Evaluation

A sump was constructed within the footprint of the landfarm for runoff and leachate collection and it is sized for a 1:100-year storm in addition to the freshet. The Federal Contaminated Sites Landfarming Guideline (GOC 2006) specifies the minimum criteria for leachate control is to satisfy a 1:10-year storm event. The hydrological data used for the sizing of the sump is based on information from the dam safety review report (SRK 2016). The 1:100 (24hr) storm event at Lupin has an equivalent precipitation of 56mm/m² and a freshet snow melt equivalent of 29mm/m². The design surface area of the landfarm is 453m², which equates to a runoff of 25.4m³ for the 1:100-year storm and a 13.1m³ freshet. The combined runoff and freshet volume is conservatively calculated to be 38.5m³ where soil attenuation and storage are not considered. The maximum capacity of the sump is calculated to be 105m³ with a 0.1m freeboard, while the operational sump capacity is 41m³ with a 0.5m freeboard.



CONSTRUCTION

The landfarm construction work commenced on July 2, 2016 with preparation of the concrete foundation and was completed on August 9, 2016 with the installation of a liner leakage detection pipe. The construction was carried out by LMI site personnel and quality controlled (QC) by LMI representative Dave Vokey. Quality control was done to ensure the foundation was prepared properly, earthwork grade and design lines were meet, compaction was done on all earthwork, the liner was deployed with care, and the leakage detection pipe was installed appropriately.

The construction process was documented through photographs which were provided to Norwest at key hold points for quality assurance prior to advancing to the next phase of work. Norwest's representative, Alvin Tong, PEng., carried out a site inspection and completed a basic survey of the completed facility on August 24, 2016. The basic survey included relative elevation measurements using a survey level and planar dimension measurements using tape measures. The survey data are reported in the as-built drawings.

Photographs of the construction are provided in Attachment A. The as-built drawings of the facility are provided in Attachment B. Construction details for key components are summarized in the sections below.

Preparation of Concrete Foundation

The decommissioned paste backfill plant foundation contained a number of drain channels and outlets, doorways, and cracks that could compromise the containment of landfarm runoff and leachate. To mitigate this issue, the entire foundation was cleared and cleaned to allow examination of the cracks and drains. The outlets of the drains were excavated to 0.2m below surface grade and backfilled with reinforced concrete. Channels within the concrete were levelled with additional concrete to create an even surface for construction. Old doorways created breaks in the surrounding footing that compromised the containment. These breaks were sealed with reinforced concrete and formed to match the dimensions of the existing footing. All identified cracks were sealed with grout.

Earthwork

Once the concrete foundation preparation was completed and photographs of the work were reviewed by Norwest, earthwork was allowed to commence. Esker sand was hauled, placed and compacted to construct the landfarm berm and floor according to the design. The esker sand is a well-graded sand material with some rounded gravel and silts. All coarse particles (>5cm) were removed from the surface for liner subgrade preparation. The berm has an approximate 1.5H:1V (horizontal to vertical) interior slope and the exterior slope varies between 2H:1V to 1.5H:1V. The floor of the landfarm has an approximate 7% grade toward the sump at the east end of the facility.



Geosynthetic Liner

A Layfield Enviro Liner 1040N liner was pre-fabricated to fit the dimensions of the landfarm. The product specifications and data sheet are included in Attachment C. All seams were welded by the manufacturer (Layfield), eliminating the requirement to carry out on-site welding or modifications on the liner. The liner was manually deployed over the finished earthwork. Excess liner was trimmed to ensure a minimum 1m overlap over the crest of the berm. Tires and sandbags were used as ballast until operation when contaminated soil was placed inside.

DESIGN MODIFICATION

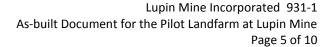
Leakage Detection Pipe

To assist evaluating and monitoring the performance of the primary containment liner, a leakage detection pipe was added into the subgrade, between the liner and concrete foundation. The pipe is located in the southwest corner of the sump and it is a 100mm outside diameter, galvanized steel pipe. The pipe is approximately 2m in height measured from the concrete with a 90° elbow at the bottom and extends 2.5m horizontally into the landfarm. The horizontal section of the pipe is perforated and wrapped with geotextile to allow leachate collection and prevent clogging by fines. The installation details of the leakage detection pipe are included in Attachment B. Details for the leakage detection monitoring are provided in the section below.

OPERATION AND MONITORING

A draft revision of the landfarm operation strategy (Norwest 2016) was provided to LMI on July 8, 2016. The general operation requirements after placement of the contaminated soil within the landfarm include aeration, moisture content adjustment as necessary, application of fertilizer as necessary, and monitoring. The strategy document will be updated as needed according to site conditions and operational requirements.

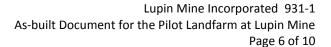
The function of the leakage detection pipe is to monitor the integrity of the primary containment liner. If the liner is compromised, leachate will be collected upon the secondary containment (concrete foundation). When the liner performs properly, there should be little to no water accumulating in the pipe. The advantage of this system is that a liner leak will be detectable early in the operation of the landfarm. The leakage detection pipe will also be used to sample any ponded water observed in the pipe so that the chemistry can be analyzed for confirmation that the water is originating from the landfarm and not from another source (i.e. precipitation). Analyte "trigger" concentrations will be calculated based on the hydrocarbon and nutrient content of the landfarm material. If water accumulates in the pipe but the chemical concentrations are below the trigger values (indicating the source of the water is not the landfarm, through the liner), no action will be taken. If concentrations are above the trigger values, the landfarm operation will be suspended and the material will be removed to investigate the source and extent of the leak.





LMI's current care and maintenance water license, Type "A" License 2AM-LUP1520 (NWB 2015), Part E 25, stipulates one observation well to be installed up-gradient and two observation wells to be installed down-gradient of the landfarm for groundwater monitoring. It is Norwest's professional opinion that the combination of secondary containment and leakage detection would render down-gradient observation wells unnecessary. The leakage detection pipe would identify any liner leakage prior to breach of secondary containment, without negative impacts outside of the containment. Relying on the sampling of observation wells would only detect a leak after the unlikely scenario where contaminated water has breached both containment systems and negatively impacted the down-gradient environment. Moreover, the observation wells would only detect groundwater contamination after a delay due to the cold climate and travel time through the soil, and during that delay the landfarm would continue to operate. The current leakage detection system has a more immediate response time therefore it could suspend landfarm operation with hydrocarbon-impacted water still within the secondary containment.

Any surface seeps from the landfarm could be identified by the current sampling program, as Part E 10 of the water license (NWB 2015) stipulates that all effluent discharged downstream from the landfarm at surface monitoring station LUP-28 to be sampled and tested. A review of water licenses from the Meliadone Gold Project (Water License No. 2AM-MEL1631), Meadowbank Gold Project (Water License No. 2AM-DOH0713) did not find any specifications requiring observation wells to monitor landfarm operations. Furthermore, observation wells installed in permafrost climate region typically have a limited monitoring window due to icing. The leakage detection pipe is located above the permafrost zone and will be functional throughout the warm season, providing a further advantage over the use of observation wells.





CLOSURE

The purpose of this letter is to provide a construction summary record for the Lupin landfarm. This letter has been prepared for Lupin Mine Inc. (LMI). The text contained herein presents documentation of the review and inspection work carried out by Norwest regarding the construction of the landfarm at the Lupin Mine, Nunavut. This report represents the opinion of Norwest based on information provided by LMI and observation made during the engineer's site inspection.

All data contained herein has be reviewed and interpreted by Alvin Tong, PEng., with the review completed by James McKinley, Ph.D., PEng.

Yours sincerely,

NORWEST CORPORATION

Author

Reviewer

Alvin Tong, PEng. Senior Geotechnical Engineer James McKinley, Ph.D., PEng. Senior Hydrogeologist

Enclosures

Attachment A – Construction Photograph Log

Attachment B – As-built Drawings

Attachment C – Geosynthetic Liner Specification and Data Sheets



REFERENCES

- Norwest Corporation (Norwest), 2016. Lupin Gold Mine Landfarm Operational Strategy, Revision B. Memorandum submitted to Lupin Mine Incorporated, July 8, 2016.
- SRK Consulting (Canada) Inc. (SRK), 2016. Lupin Mine Tailings Management Facility 2015 Dam Safety Review Report. Submitted to Lupin Mine Incorporated, January 2016.
- Nunavut Water Board (NWB), 2015. Type "A" Water License No. 2AM-LUP1520. Issued by Nunavut Water Board to Lupin Mines Incorporated, May 11, 2015.
- Lupin Mine Incorporated (LMI), 2014. Lupin Mine, Landfarm Management Plan. Submitted to Nunavut Water Board, December 2014.
- Government of Canada (GOC), 2006. Federal Contaminated Sites Action Plan (FCSAP), Federal Guidelines for Landfarming Petroleum Hydrocarbon Contaminated Soils, March 2006 (Editorial Update 2013).



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Attachment A

Construction Photograph Log



Photo 1: Clearing of the concrete foundation and removal of debris in drain outlets



Photo 4: Rebar reinforcement between an old doorway.



Photo 2: Rebar reinforcement within the drain outlet.



Photo 5: concrete backfill in the channel and outlets.



Photo 3: Rebar reinforcement within the drain outlet.



Photo 6: Sealed old doorway.

LMI

Lupin Mines Incorporated

Landfarm As-built Letter

Construction Photograph Log

NORWEST PN: 931-1 FIGURE 1



Photo 7: Grouting the cracks on the foundation pad.



Photo 10: Liner deployment continued.



Photo 8: Liner deployment over the finished subgrade.



Photo 11: The Enviro Liner 1040N label.



Photo 9: Liner deployment continued.



Photo 12: Deployed liner with sand bags and old tires as ballast.

LMI

Lupin Mines Incorporated

Landfarm As-built Letter

Construction Photograph Log

NORWEST PN: 931-1 FIGURE 2



Photo 13: Horizontal section of the leakage detection pipe wrapped with geotextile within the subgrade.



Photo 16: Liner edge are buried within the exterior slope.



Photo 14: View of the leakage detection pipe at the east end of the landfarm, between the sump and the raised concrete footing.



Photo 15: Close up view of the sampling port of the leakage detection pipe.



Photo 17: Panoramic westerly view of the completed landfarm from the assess ramp.

Lupin Mines Incorporated LMI Landfarm As-built Letter

Construction Photograph Log

NORWEST PN: 931-1 FIGURE 3



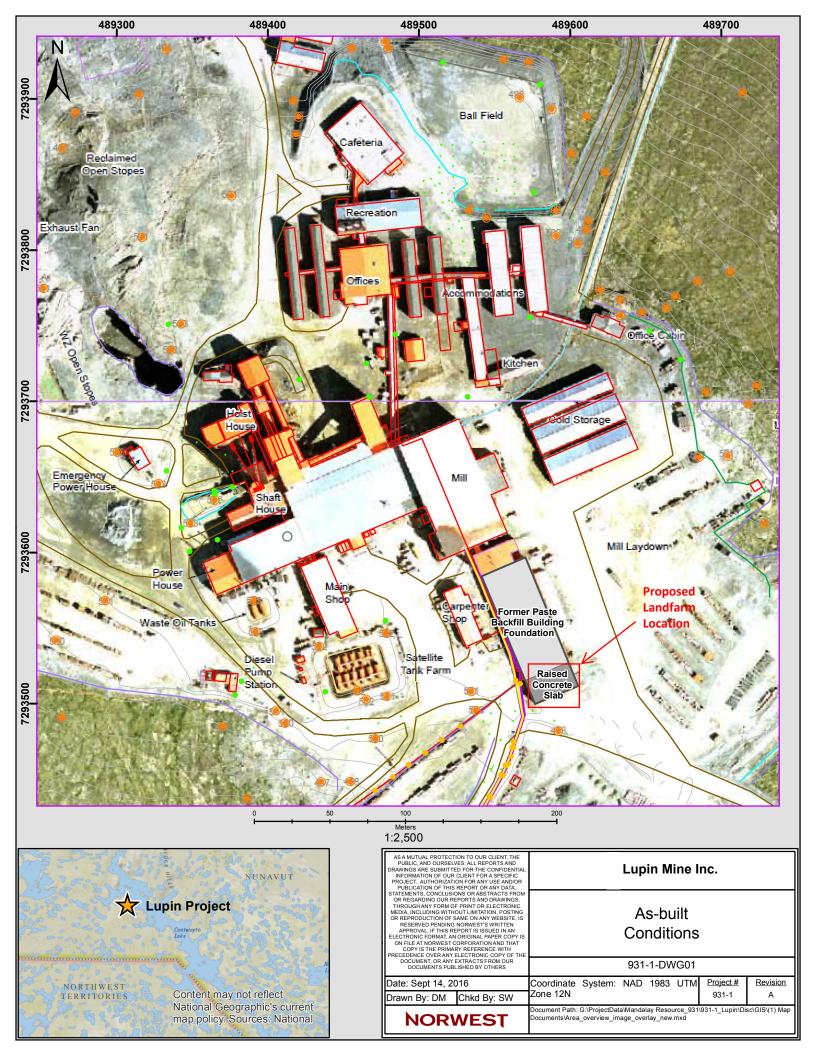
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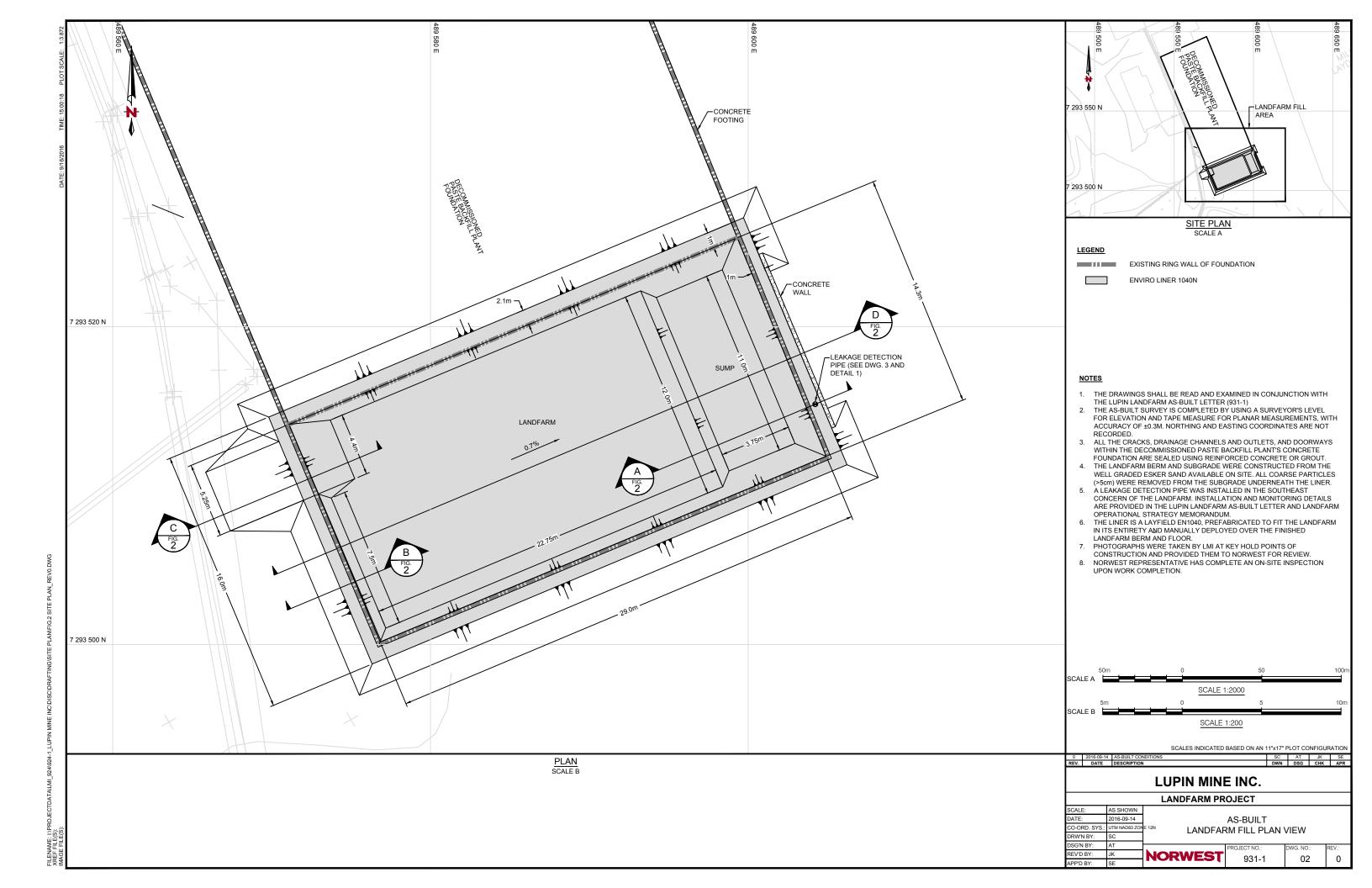
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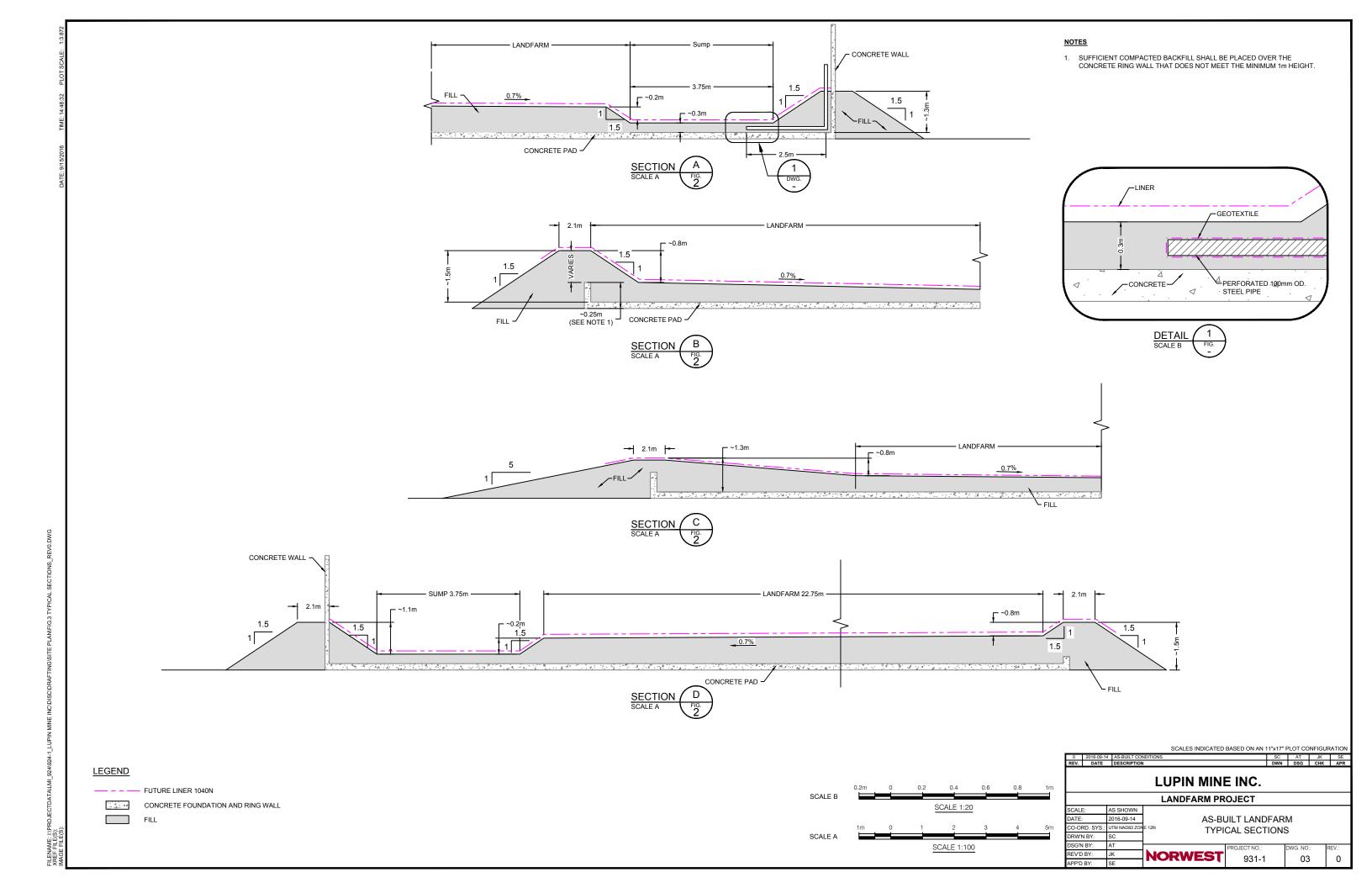


Attachment B

As-built Drawings









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Attachment C

Geosynthetic Liner Specification and Data Sheets

Cut Sheet - Layfield Page 1 of 3



US 866-375-9749 **CAN** 800-841-0836

Enviro Liner 1000N - Geomembrane

1. Product Description

Enviro Liner® 1000N (EL1000N) series is a specialized polyethylene flexible membrane lining material that has been developed for the containment of drilling fluids and chemicals associated with hydraulic fracturing operations. EL1000N can also be used to line short term oil pits (up to 5 years). EL1000N comes with a light grey color top skin layer and a black layer on the bottom. The grey face helps to identify potential sheet damage and leaks (If the grey outer skin layer is damaged it will normally show the black core layer). The grey face also reflects sunlight better than the black face, helping reduce wrinkles caused by sheet thermal expansion and contraction. EL1000N is available in thicknesses of 30 and 40 mils. Enviro Liner® 1000N is a flexible membrane liner that is flexible enough to be factory fabricated so that it can be delivered in one large panel with no seaming required on site.

2. Technical Data

Materials information is on page 2.

3.

4. Availability and Cost

Available from Layfield or distributors. Call 425-254-1075 Pacific time 780-453-6731 Mountain time, or 905-761-9123 Eastern time

5. Manufactured By

Layfield USA Corp. Layfield Canada Ltd.

6. Warranty

Products sold will meet Layfield's published specifications. Any extended warranty required by the buyer must be negotiated at the time of order. Extended warranties may be available on this product and may be at extra cost. Full warranty details are available from Layfield.

7. Maintenance

Geomembranes should be inspected at least once per year for damage, stress, or any other detrimental condition. The entire containment area should be visually inspected annually. Layfield provides geomembrane maintenance services on request.

8. Filing Systems

https://www.layfieldgroup.com/Geosynthetics/Geomembrane-Liners/Enviro-Liner-1000N.aspx

Cut Sheet - Layfield Page 2 of 3

9.

10 Apr 2013	Enviro Liner® 1000N Series Typical Propertie					
Style	ASTM	1030N	1040N			
Style		30	40			
Tensile Strength at Break	D638	114 ppi 21 N/mm	154 ppi 28.5 N/mm			
Elongation	D638	800%	800%			
Tear Resistance	D1004	16 lbs 71 N	22 lbs 98 N			
Puncture Resistance	D4833	45 lbs 200 N	60 lbs 270 N			
Low Temperature Impact Resistance	D1790	-40°F -40°C	-40°F -40°C			
Maximum Continous temperature ¹		70°C 158°F	70°C 158°F			
Dimensional Stability	D1204 Max Chng	<2.0%	<2.0%			
Water Vapor Permeability	F 1249	3 x 10 ⁻¹³ cm/sec	3 x 10 ⁻¹³ cm/sec			

 $^{^{\}rm 1}$ Please contact Layfield for chemical compatibility at elevated temperatures

10.

10 Apr 2013	Enviro Liner® 1000N Shop Seam Strengths						
Style	ASTM	1030N	1040N				
Heat Bonded Seam Strength	D6392 25.4 mm (1") Strip	36 ppi 6.3 N/mm	48 ppi 8.4 N/mm				
Heat Bonded Peel Adhesion Strength	D6392 25.4 mm (1") Strip	FTB 29 ppi 5.1 N/mm	FTB 39 ppi 6.8 N/mm				

11.

10 Apr 2013	Enviro Liner® 1000N Field Seam Strengths						
Style	ASTM	1030N	1040N				
Heat Bonded Seam Strength	D6392 25.4 mm (1") Strip	FTB 29 ppi 5.1 N/mm	FTB 39 ppi 6.8 N/mm				
Heat Bonded Peel Adhesion Strength	D6392 25.4 mm (1") Strip	FTB 25 ppi 4.4 N/mm	FTB 33 ppi 5.8 N/mm				



www.LayfieldContainment.com Containment@layfieldgroup.com

APPENDIX B

COST TO MOVE CONTAMINATED SOIL TO LANDFARM

Contaminated Soil from Main Tank to Landfarm and Contaminated Soil from the Satellite Tank Farm to the Landfarm

Site Contaminated S	Soil to	Landfarm				abor		luipment	Total
Desc	Quan.	Item	Hours	Hrs Ttl	\$/hr	Cost	\$/hr	Cost	Cost
ii Damaaalaa da Diaaaaa		40.000	AOD O	NA : 1 6-					
il Removal and Placeme	ent	10,000	m/3RC	NVI SOII Tro I	om main t	ank farm to l	iandtarm I		
Load	1	992D Excava	148	148	\$43.98	\$6,497	\$245.00	\$36,196	\$42,693
Load	1	992D LXCava	140	140	ψ43.90	φ0,491	φ243.00	φ30,190	ψ42,093
Haul and Dump	1	40t Toro	148	148	\$41.81	\$6,177	\$22.48	\$3,321	\$9,498
Labourers to spread	18		12	443	\$43.98	\$19,491	·	. ,	\$19,491
in 3 cells								.	•
Sub-total		1				\$32,164		\$39,517	\$71,681
Site Contaminated soil				738.69		\$32,164		\$39,517	\$71,681
C Comaninator 3011				. 55.55		Ψ0=,10+		Ψ30,017	Ψ7 1,001

satellite tank farm	to La	ndfarm			L	abor	Ed	quipment	Total
Desc	Quan.	Item	Hours	Hrs Ttl	\$/hr	Cost	\$/hr	Cost	Cost
Soil Placement		250	m/3 co	 ntaminat	 :ad soil m	 at' to move	 from satall	l lite farm area t	o landfarm
Jon Flacement		250	111 5 00	 					o ianuianni.
								_	
Haul and Dump		3Cx JCB	18	18	\$41.81	\$772	\$22.48	\$415	\$1,187
Material spreaders	2		12	24	\$43.98	\$1,055			\$1,055
Sub-total						\$1,828		\$415	\$2,243
								,	. ,
	<u> </u>	<u> </u>							
STF to Landfill				42.467		\$1,828		\$415	\$2,243
						+ .,==0		Ψ	Ψ=,= .0

APPENDIX C

LMI RATES AND PRODUCTIVITY

PAG to Shaft, PAG to UG, PAG to Tails, Tailings Cover

Designation	2014 Rate	2015 Rate	2016 Rate
Designation	Rate	Rate	Rate
Electrician-F/M	\$54.43	\$54.43	\$51.71
Electrician-J/M	\$49.17	\$49.17	\$46.71
Ironworker-F/M	\$53.43	\$53.43	\$50.76
Ironworker-J/M	\$47.95	\$47.95	\$45.55
Labourer-F/M	\$43.38	\$43.38	\$41.21
Labourer-J/M	\$39.77	\$39.77	\$37.78
Mechanic (ME2)	\$40.41	\$40.41	\$38.39
Mechanic (ME2)	\$40.41	\$40.41	\$38.39
Serviceman	\$33.92	\$33.92	\$32.22
Millwright-F/M	\$56.55	\$56.55	\$53.72
Millwright-J/M	\$51.06	\$51.06	\$48.51
Operator-F/M	\$51.79	\$51.79	\$49.20
Operator-R/T	\$47.36	\$47.36	\$44.99
Operator-Truck	\$44.01	\$44.01	\$41.81
Operator-Equip	\$46.29	\$46.29	\$43.98
Operator-J/M	\$50.64	\$50.64	\$48.11
Pipefitter-F/M	\$56.37	\$56.37	\$53.55
Pipefitter-J/M	\$50.86	\$50.86	\$48.32

Equipment Charge-out Rates

Cat 777	\$187.00
Bkho 375L	\$179.20
7500 ftlb	\$44.05
Cat 992D	\$245.00
Cat D10N	\$185.26
110 Ton	\$185.10
40t Toro	\$22.48
LT 9000	\$28.67
Volvo 5350B	\$77.23
D85E	\$34.65

\$34.65

\$16.57

\$111.86

D8K

RT522

966E FEL

Total 0 100,000

Productivity calculations:

Capacity Cat 992D Loader 10.0 m/3 per bucket (crushed rock)

Fill factor 90% Load factor 85%

Calculated Loac 7.7 m^3 per bucket (crushed rock)

Cycle time 1.20 minutes/cycle = 50 loads per hour max

@ 50 min/hr = 41.7 loads per hour assumed

Calculated productivity: 319 m^3 per hour

Rock required to move: 100,000 m³ Total time required to load material: 314 hours

Hours per shift 11
Shifts per day 2
Total days = 14

@ 4.3 weeks/mth = 0.5 months @ 3 mths/season = 0.2 seasons

Capacity Volvo Truck 35 m^3 (crushed rock)

Fill factor 85% Load factor 85%

Calculated Loac 25.3 m³ (crushed rock)

Cycle time 18 minutes/cycle = 3.33 loads per hour max @ 50 min/hr = 2.78 loads per hour assumed

Calculated productivity: 70 m^3 per hour, per truck

Number trucks required: 1.00 trucks, rounded up = 1 trucks

Total trucking time required: 1,424 hours

Hours per shift 11
Shifts per day 2
Total days = 65
@ 4.3 weeks/mth = 2.1
@ 3 mths/season = 0.7

Therefore One season will Complete the movement required.

SHAFT DUMI	P ARE	AS			Labor Equipment		quipment	Total	
Desc	Quan.	Item	Hours	Hrs Ttl	\$/hr	Cost	\$/hr	Cost	Cost
Rock Placement		100,000	m^3RC	M mat'l t	to move fr	om mill area	to shaft a	rea.	
Rip/ Stockpile		D10N Dozer D8K Dozer	100 100	100 100	\$43.98 \$43.98	\$4,398 \$4,398	\$185.26 \$34.65	\$18,526 \$3,465	\$22,924 \$7,863
Load	1	992D Loader	314	314	\$43.98	\$13,796	\$245.00	\$76,863	\$90,659
Haul and Dump spotter safety	1 2 2		1424 633 634	1424 1266 1268	\$41.81 \$32.22 \$51.71	\$59,521 \$40,796 \$65,566	\$77.23	\$109,947	\$169,468 \$40,796 \$65,566
Sub-total						\$188,474		\$208,801	\$397,275
PAG- Shaft Area				4471.4		\$188,474		\$208,801	\$397,275

PAG Rock

Total 0 200.000

Dump to open stopes to average of 500m UG- Maximum haul distance 4.2km.

Productivity calculations:

Capacity Cat 992D Loader 10.0 m^3 per bucket (crushed rock)

> Fill factor 90% 85% Load factor

Calculated Load 7.7 m^3 per bucket (crushed rock)

1.20 minutes/cycle = Cycle time 50 loads per hour max @ 50 min/hr = 41.7 loads per hour assumed

Calculated productivity: 319 m^3 per hour

Rock required to move: 200,000 m^3

Total time required to load material: 627 hours

> Hours per shift 11 Shifts per day 2 Total days = 29

0.9 months @ 4.3 weeks/mth = @ 3 mths/season = 0.3 seasons

Capacity 40t UG Truck 40 m^3 (crushed rock)

> Fill factor 95% Load factor 95%

Calculated Load 36.1 m^3 (crushed rock)

32 minutes/cycle = Cycle time 1.88 loads per hour max @ 50 min/hr = 1.56 loads per hour assumed

56 m^3 per hour, per truck Calculated productivity:

Number trucks required: 2.00 trucks, rounded up = 2 trucks

Total trucking time required: 1,773 hours

> Hours per shift 11 Shifts per day 2 Total days = 81 @ 4.3 weeks/mth = 2.7 @ 3 mths/season = 0.9

Therefore One season will Complete the movement required.

PAG TO UG					Labor		Equipment		Total
Desc	Quan.	Item	Hours	Hrs Ttl	\$/hr	Cost	\$/hr	Cost	Cost
Rock Placement		200,000	m^3RO	M mat'l t	o move fr	om mill area	to tails are	ea.	
Rip/ Stockpile	1	D10N Dozer	100	100	\$43.98	\$4,398	\$185.26	\$18,526	\$22,924
ττιρ/ στοσκριίο		D8K Dozer	100	100	\$43.98	\$4,398	\$34.65	\$3,465	\$7,863
1 1		0000 1 1	007	007	# 40.00	#07.500	#045.00	#450.705	# 404.040
Load	1	992D Loader	627	627	\$43.98	\$27,592	\$245.00	\$153,725	\$181,318
Haul and Dump		40t Toro	1773	3546	\$41.81	\$148,244	\$22.48	\$79,707	\$227,952
UG spotters safety	8 2		800 800	6400 1600	\$43.98 \$51.71	\$281,443 \$82,734			\$281,443 \$82,734
Sub-total			800	1000	φ51.71	\$548,809		\$255,424	\$804,233
	1	<u> </u>	l .				ı		
PAG UG1				12373		\$548,809		\$255,424	\$804,233

PAG Rock

Total 0 100,000

Productivity calculations:

Capacity Cat 992D Loader 10.0 m^3 per bucket (crushed rock)

Fill factor 90% Load factor 85%

Calculated Load 7.7 m^3 per bucket (crushed rock)

Cycle time

1.20 minutes/cycle = 50 loads per hour max

@ 50 min/hr = 41.7 loads per hour assumed

Calculated productivity: 319 m^3 per hour

Rock required to move: 100,000 m³

Total time required to load material: 314 hours

Hours per shift 11
Shifts per day 2
Total days = 14

@ 4.3 weeks/mth = 0.5 months @ 3 mths/season = 0.2 seasons

Capacity Cat 777 Truck 51.5 m^3 crushed rock)

Fill factor 85% Load factor 75%

Calculated Load 32.8 m^3 (crushed rock)

Cycle time 27 minutes/cycle = 2.22 loads per hour max @ 50 min/hr = 1.85 loads per hour assumed

Calculated productivity: 61 m^3 per hour, per truck

Number trucks required: 1.00 trucks, rounded up = 1 trucks

Total trucking time required: 1,645 hours

Hours per shift 11
Shifts per day 2
Total days = 75
@ 4.3 weeks/mth = 2.5
@ 3 mths/season = 0.8

Therefore One season will Complete the movement required.

PAG to Tails						Labor Equip			Total
Desc	Quan.	Item	Hours	Hrs Ttl	\$/hr	Cost	\$/hr	Cost	Cost
Rock Placement		100,000	m^3RO	M mat'l t	o move fr	om mill area	to tails are	ea.	
Rip/ Stockpile	1	D10N Dozer	200	200	\$43.98	\$8,795	\$185.26	\$37,052	\$45,847
	1	D8K Dozer	200	200	\$43.98	\$8,795	\$34.65	\$6,930	\$15,725
Load	1	992D Loader	314	314	\$43.98	\$13,796	\$245.00	\$76,863	\$90,659
Haul	1	Cat 777 Trucks	1645	1645	\$41.81	\$68,767	\$187.00	\$307,573	\$376,340
i iaui	'	Cat 111 Trucks	1043	1043	ψ41.01	φοο, το τ	φ107.00	ψ307,373	ψ370,340
Place	1	Cat D85E Dozer	314	314	\$43.98	\$13,796	\$34.65	\$10,871	\$24,667
Spotters	2		1645	3290	\$32.22	\$106,017		. ,	\$106,017
safety	2		1646	3292	\$51.71	\$170,224			\$170,224
Sub-total						\$219,967		\$439,288	\$659,255
]		
							1		
							<u> </u>		
PAG-Tailings Containm	ant Ara	12		9254.2		\$219,967		\$439,288	\$659,255
r AG-Tailings Containin	CIIL AIG	a		9204.2		ΨΖ19,907		ψ 4 39,200	φυσθ,255

Tailing Containment Area

Cell	Depth m	Area m^2	Volume m^3
5	1.20	129,000	154,800
3	1.20	71,100	85,320
Total		200,100	240,120

Using PCL productivity calculations:

Capacity Cat 992D Loader 10.0 m^3 per bucket (heaped esker sand)

Fill factor 90% Load factor 90%

Calculated Load 8.1 m^3 per bucket (heaped esker sand)

Cycle time 0.75 minutes/cycle = 80 loads per hour max @ 50 min/hr = 66.7 loads per hour assumed

Calculated productivity: 540 m^3 per hour

Esker material required to move: 240,120 m^3 Total time required to load material: 445 hours

Hours per shift 11
Shifts per day 2
Total days = 20

@ 4.3 weeks/mth = 0.7 months @ 3 mths/season = 0.2 seasons

Capacity Cat 777 Truck 51.5 m³ (heaped esker sand)

Fill factor 90% Load factor 85%

Calculated Load 39.4 m^3 (heaped esker sand)

Cycle time 28.6 minutes/cycle = 2.10 loads per hour max @ 50 min/hr = 1.75 loads per hour assumed

Calculated productivity: 69 m^3 per hour, per truck

Number trucks required: 2.00 trucks, rounded up = 2 trucks

Total trucking time required: 1,743 hours

Hours per shift 11
Shifts per day 2
Total days = 79
@ 4.3 weeks/mth = 2.6
@ 3 mths/season = 0.9

Therefore One season will Complete the Cover required.

TAILINGS CONTAINMENT AREA						Labor Equipment				
Desc	Quan.	Item	Hours	Hrs Ttl	\$/hr	Cost	\$/hr	Cost	Total Cost	
Granular Cover		240,120	m^3 es	ker mat'l	to move f	from Fingers	Lake to ta	ils area.		
Ctackailing										
Stockpiling										
Strip / Stockpile		D10N Dozer	200	200		\$8,795	\$185.26	\$37,052	\$45,847	
	1	D8K Dozer	200	200	\$43.98	\$8,795	\$34.65	\$6,930	\$15,725	
1 1	,	0000	445	445	# 40.00	640 554	Φ0.4E.00	£400.040	£400,400	
Load	1	992D Loader	445	445	\$43.98	\$19,554	\$245.00	\$108,943	\$128,498	
Haul	2	Cat 777 Trucks	1743	3486	\$41.81	\$145,757	\$187.00	\$651,925	\$797,682	
	_	Cat I I I I I I I I I I I I I I I I I I I		0.00	Ψσ.	ψσ,. σ.	ψ.σσσ	400. ,020	ψ. σ. ,σσ <u>=</u>	
Place	1	Cat D85E Dozer	445	445	\$43.98	\$19,554	\$34.65	\$15,408	\$34,962	
spotters	2		1743	3486	\$32.22	\$112,340		\$0	\$112,340	
Cub total						C044 707		\$020.250	¢4 425 054	
Sub-total						\$314,797		\$820,258	\$1,135,054	
Fingers Lake Esker		Reclaim - contour	and arac	l de auern						
I lilgers Lake Laker		rteciaiiii - contour	and grad	l quairy	, 					
Sub-total	1	D10N Dozer	2400	2400	\$43.98	\$105,541	\$185.26	\$444,624	\$550,165	
							1			
		I	1			1	<u> </u>	<u> </u>		
Tailings Containment A	rea			10662		\$420,338		\$1,264,882	\$1,685,219	

APPENDIX D

ENGINEERING

Engineering Estimate

	quantity		Rate	cost			
Lanfarm Design		1	60,000	\$	60,000.00	Cor	npleted
Spillway Design		1	60,000	\$	60,000.00		
Contracts		1	200000	\$	200,000.00		
Tailings final		1	60000	\$	60,000.00		
Esa Final		1	80,000	\$	80,000.00		
Misc incl seep sampling /analysis for ESA				\$	60,000.00		
Final Closure Geotech report				\$	25,000.00		
						\$	545,000.00

APPENDIX E

ASBESTOS RESULTS

AANDC 3.2 Asbestos

AANDC: Background - Given the age of the structures, there is concern that asbestos could be present at the site (i.e., insulation, buildings, etc.) and if this was the case, the reclamation liability could increase. An investigation should be completed to confirm there is no asbestos present on the site. Should asbestos be present, a remedial cost estimate for mitigation and cleanup should be completed and the reclamation cost estimate should be adjusted accordingly.

LMI Response:

Sufficient asbestos inventories have been taken at site in order for LMI to be confident that it has appropriately been accounted for in its reclamation and closure planning. In 2006 an asbestos survey was conducted by Morrow Environmental Consultants in anticipation of the demolition of buildings on site. The survey identified a number of the buildings that require specific procedures, prior to demolition, for the handling, abatement, demolition and disposal of asbestos materials. The presence of asbestos materials as identified in that report was communicated to the contractors providing quotes for demolition so that the rates reflect these procedures.

A more recent investigation was completed by Industrial Hygiene experts with Arctic Response at the Lupin site in August 2012. The assessment was completed in order to identify the presence of asbestos in materials not previously sampled and to recommend safe work procedures during the refurbishment of the site. Please see the table below for the results.

Sample #	Sample location	Material	Asbestos content
A-1	CEILING TILE BATHROOM NEAR THE	acoustical ceiling tile	< 1%
	RECOVERY PLANT VAULT ROOM		
A-2	FLOOR TILE FROM ENTRANCE TO LABS	vinyl sheet flooring	< 1%
A-3	CEILING TILE 2 FLOOR OFFICE OUTSIDE	acoustical ceiling tile	< 1%
	RECOVERY		
A-4	CEILING TILE UPSTAIRS LOCKER ROOM	acoustical ceiling tile	< 1%
A-5	TILE - BATH FLOOR-RECOVERY BUILDING	vinyl floor tile	< 1%
	BACK ROOMS		

NOTE: The Federal Hazardous Product Act (HPA) defines asbestos containing materials as one that contains more than 1% asbestos fiber by weight or content.

The samples are all non asbestos containing

AANDC: Recommendation - AANDC recommends that the licence require LMI to conduct an investigation to confirm whether or not asbestos is present on site.

LMI Response:

LMI has conducted investigations to confirm whether or not asbestos is present on site and the need for special handling of certain materials has been taken into consideration in the demolition plans.