17	Vaetnort	District-	oonting	Бол	,	PAGE	Pan-amalgamation—continued.	PAGE
Kumara, Westl			••	•••		43	Quantity of quicksilver added	83
Ross United Co	mpany.		••	••	• • • • • • • • • • • • • • • • • • • •	43	Chemicals used in amalgamation	83
Mont d'Or Com	nany. H	cos	••	•••	• • •	44	Use of iron in pans	83
Humphrey's G			••	••	••	44	Use of iron in pans	84
Phœnix Compa			••	••	•••	45	Clean-up pans	84
Maori Point, S.			••			47	Settlers	84
•							Clean-up pans	84
		timony-m		_			Tailings	84
Antimony Com		ueen Cha	rlotte S	ound	• •	48	Weathering of concentrations	85
Dressing-works		••	• •	• •	• •	48	Percentage recovered from concentrations	85
Smelting-works			• •	• •	• •	49	Treatment of tailings from silver-ores	85
Singling proces Doubling proces	SS	••	• •	• •	• •	49	Slimes	85
Doubling proce	SS	• •	• •	• •	• •	49	Samples of ore	85
Frenching or re	enning p	rocess	• •	• •	• •	50	Battery-samples	85
Furnace for sm	terring c	ruae ore	••	••	• •	50	Ore-assays	85
	0	opper-min	ina					
Ohammian Cam			•			51	Roasting-furnaces.	05
Champion Com Character of co	ipany, n	eison	• •	••	• •	52	Systems of furnaces	85
Smelting-works	unury		••	••	• •	53	Dimensions of furnaces	86 87
Cost of produci	na aonn	••	• •	••	• •	53	Capacity of different furnaces	87
Cost of product	ng copp	CI	••	••	• •	00	Methods of feeding ore into furnaces	87
	Ores an	d their F	ormatio	11.5			Methods of conveying ore to furnaces Manipulation in roasting	87
Ore-deposits						54	lm 1	87
Shape of depos	its	••	••	••		55	lan * e ' 1 ' 1	87
Deposition of o	re in ch	ambers		• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	55	1 m	88
Connection of o				••	• • • • • • • • • • • • • • • • • • • •	55	Oxidizing roasting	88
Manner of depo				••	• • •	56	Percentage of salt used	88
Gold-ore		••	••	••	• • • • • • • • • • • • • • • • • • • •	56	Sulphur-contents	88
Silver-ore		••	••	••	• • •	56	lm " (e 1) 1 (1) 1	88
Copper-ore	••	••	••		• • •	57	* 1	88
Lead-ore	••	••		• •	• • • • • • • • • • • • • • • • • • • •	57	Labour Fuel	88
Zinc-ore		••		• •		58		88
Antimony-ore		••		••		58	Power	88
			••	••		58	Amount of flue-dust caught	88
Mercury-ore		••		•••	•••	58	Loss of flue-dust	89
Platinum-ore		••				58	Different kinds of furnaces compared with each	00
Manganese-ore			••		• • •	58	other	89
Nickel-ore		••			••	58	Other	00
Iron-ore				•••	••	58	Hydraulic Sluicing.	
29 T				••	• •	58	General description	90
T 1	••					59	Yield of gold in gravel from important hydraulic-	
Silica-ore		••				59	mining claims in California	91
							Results of working some of the hydraulic-mining	• -
								92
Railey's plant			• •			60	Length and grade of some of the principal tunnel	
Crushing ore			• •	• •		62	tail-races in California	93
Roasting proce	SS	• •	• •	• •		62	Length, cost, and grades of important tunnel tail-	-
Chloridizing pr	ocess	• •	• •	• •	• •	62	races in Nevada	93
Sifting the ore Amalgamation	• •	• •	• •	• •	• •	63	Details of work done in North Bloomfield Company's	
Amalgamation	:	• •	• •	• •	• •	63	Claim, Nevada	93
Leaching or lix	civiation	process	• •	• •	• •	63	,	
Precipitation of Metals. Blasting Gravel-banks.								
Silver		••				65	Dardanelles Mine Blast	· 94
Gold		••	••	• •	••	66		
Calcium-sulphi	de man	ner of me	kina	••	• •	66	Tail-races and Sluices.	
Calcium-hypos	ulnhide	manner of	of makir	າດ	•••	66	Grade	94
Production of o				·6		66	General efficient grade	94
Assays of ore fr			l Waihi			66	Size of sluices	94
Table showing	9.SS9.V-1	results by	7 C. A.	Luckhe	ardt.		Construction of sluices	95
Francisco	••	•••				69	Blocks	95
Climo and Baw		chine	••	•••	• • •	70	Laying down wooden blocks	95
Frue's Concent						71	Rock-riffles	95
Vulcan Smeltin				••		$7\overline{1}$	Undercurrents	95
New Era Comp			·	• •		72	Cleaning up	96
Newbury-Vaut						76	Charging the sluices	96
•			_		_		Loss of quicksilver	96
Treatment		t- and Si	wer-ores	in Am	erica.		Table showing distribution of gold in sluices	97
Amalgamating		••				79	Hydraulic pipes	98
Relative amoun	nt of ore	\mathbf{m} illed				79	Table of discharge of water from pipes	99
Capacity of mil	lls					79		
Tenor of ore tr	eated					79	Construction of Pipes.	
Working result	S	• •				79	Thickness of iron	100
Cost of treatme				• •		80	Rivetting	101
Reducibility of			• •	••		80	Joints	101
Terms of custor	m-mills	• •	• •	• •		80	Air-valves and blow-offs	101
	St	amp-batte	ries.				Coating of pipes	101
Wet and dry cr			••			80	Cost of hydraulic pipes	101
Screens						80	Table of weight of pipes	102
Order in which	stamps	fall	••	••	• •	81	Table of price of pipes	102
	_						Nozzles	103
701	Pan	-amalgam				04	Water-motors	103
	••	••	• •	••	• •	81	Lifting boulders	103
Pans for working		••	••	••	• •	81	Table of discharge of water from nozzles	104
Method of heat			•• . 4	••	• •	82	Table of quantity of water and horse-power of Pelton	400
Number of revo				ie	• •	82	Water-wheel, and also cost of same	105
Weight of char		• •	••	• •	• •	82	Value of works constructed	106
	•• ,	••	• •	• •	• •	82	Table showing works in course of construction	107
Time of working			• •	• •	• •	82	Table showing works constructed	110
Continuous am	_		• •	• •	• •	82	Table showing receipts and expenditure on water-	110
Grinding						82	races	113