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CRONOGRAMA DE OBRA

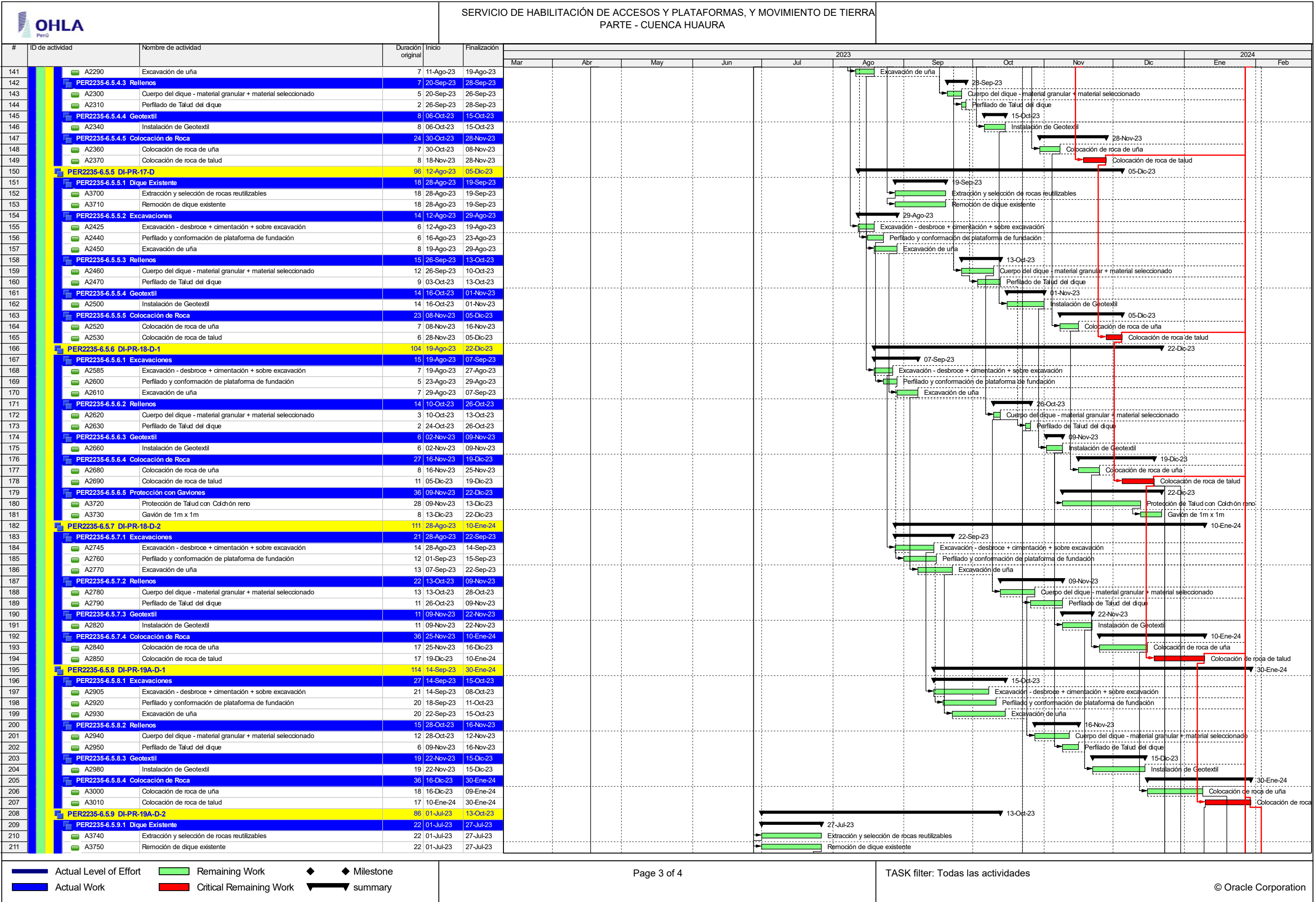
Cronograma General

 Actual Level of Effort
 Remaining Work
 ◆ ◆ Milestone

 Actual Work
  Critical Remaining Work
 ▼ summary

 Actual Level of Effort
  Remaining Work
  Milestone

 Actual Work
 Critical Remaining Work
 summary



 Actual Level of Effort
 Remaining Work
 Milestone

 Actual Work
  Critical Remaining Work
  summary

Cronograma – Nivel 4

 Actual Level of Effort
 Remaining Work
 Milestone

 Actual Work
  Critical Remaining Work
  summary

 Actual Level of Effort
 Remaining Work
 ◆ ◆ Milestone

 Actual Work
  Critical Remaining Work
 ▼ summary

Ruta Crítica

 Actual Level of Effort
  Remaining Work
  Milestone

 Actual Work
  Critical Remaining Work
  summary

CRONOGRAMA DE ADQUISICIÓN DE MATERIALES

CRONOGRAMA DE ADQUISICIÓN DE MATERIALES

MATERIAL	UND	METRADO	Abr-23	May-23	Jun-23	Jul-23	Ago-23	Set-23	Oct-23	Nov-23	Dic-23	Ene-24
RESPONSABILIDAD DEL SUB CONTRATISTA												
PETROLEO D-2	gal	1,297,975.20	35,620.02	120,437.83	155,837.58	181,482.73	193,062.38	192,747.72	170,563.87	155,334.11	57,898.26	34,990.69
Peaje local	vje	9,557.09	152.61	839.35	1,125.49	1,335.32	1,564.23	1,239.94	1,068.26	381.52	95.38	381.52
ALAMBRE NEGRO RECOCIDO #8	kg	733.14	28.50	80.31	77.72	80.31	80.31	77.72	80.31	77.72	80.31	69.95
ALAMBRE NEGRO #16	kg	1,928.52	74.96	211.25	204.44	211.25	211.25	204.44	211.25	204.44	211.25	183.99
ALAMBRE NEGRO #8	kg	1,909.40	74.22	209.16	202.41	209.16	209.16	202.41	209.16	202.41	209.16	182.17
ACERO CORRUGADO fy = 4200 kg/cm2 GRADO 60 DE 3/8" X 9 m	var	10.00	0.39	1.10	1.06	1.10	1.10	1.06	1.10	1.06	1.10	0.95
ACERO CORRUGADO fy = 4200 kg/cm2 GRADO 60	kg	39,727.51	1,544.18	4,351.78	4,211.40	4,351.78	4,351.78	4,211.40	4,351.78	4,211.40	4,351.78	3,790.26
DOWELL LISO Ø 3/4", L=500, c/0.50m	kg	1,858.50	72.24	203.58	197.01	203.58	203.58	197.01	203.58	197.01	203.58	177.31
CLAVOS PARA MADERA CON CABEZA DE 3"	kg	573.84	22.30	62.86	60.83	62.86	62.86	60.83	62.86	60.83	62.86	54.75
CLAVOS	kg	51.60	2.01	5.65	5.47	5.65	5.65	5.47	5.65	5.47	5.65	4.92
ANCLAJES	und	64.00	2.49	7.01	6.78	7.01	7.01	6.78	7.01	6.78	7.01	6.11
GAVION TIPO CAJA DE 1x1x5 m (3.4 mm) abert: 10x12 cm	und	31.17									31.17	
GAVION COLCHON 8 x 10 CM, 2.70 MM (H=0.30m)	m2	1,134.63								567.32	567.32	
Tubería ASTM A53SCH-40, DN=300mm HD	m	3.55	0.14	0.39	0.38	0.39	0.39	0.38	0.39	0.38	0.39	0.34
PIEDRA CHANCADA	m3	873.67	33.96	95.70	92.61	95.70	95.70	92.61	95.70	92.61	95.70	83.35
ARENA GRUESA	m3	1,046.21	40.67	114.60	110.91	114.60	114.60	110.91	114.60	110.91	114.60	99.82
MATERIAL DE RESPALDO 1" PARA JUNTAS 20 mm	m	630.00	24.49	69.01	66.78	69.01	69.01	66.78	69.01	66.78	69.01	60.11
GEOTEXTIL DE 400GR/M2	m2	387,865.95	15,076.06	42,487.08	41,116.53	42,487.08	42,487.08	41,116.53	42,487.08	41,116.53	42,487.08	37,004.88
TECNOPOR DE 1/2"X4X8'	pln	25.00	0.97	2.74	2.65	2.74	2.74	2.65	2.74	2.65	2.74	2.38
WATER STOP (anillos de estanqueidad); DN=900mm	und	15.20	0.59	1.67	1.61	1.67	1.67	1.61	1.67	1.61	1.67	1.45
WATER STOP (anillos de estanqueidad); DN=1200mm	und	22.80	0.89	2.50	2.42	2.50	2.50	2.42	2.50	2.42	2.50	2.18
CEMENTO PORTLAND TIPO I (42.5 kg)	bol	14,168.31	550.71	1,552.01	1,501.94	1,552.01	1,552.01	1,501.94	1,552.01	1,501.94	1,552.01	1,351.75
YESO BOLSA 20 KG	bol	5.00	0.19	0.55	0.53	0.55	0.55	0.53	0.55	0.53	0.55	0.48
Tubería HDPE Corrugado de 600 mm	m	39.33						1.66	17.17	16.62	3.88	
TUBERIA CORRUGADA HDPE D=630 mm	m	974.44						41.17	425.46	411.74	96.07	
TUBERIA CORRUGADA HDPE D=1000 mm	m	131.04						5.54	57.21	55.37	12.92	
Tubería HDPE Corrugado de 900 mm	m	204.20						8.63	89.16	86.28	20.13	
TUBERIA CORRUGADA HDPE D=1200 mm	m	290.19						12.26	126.70	122.62	28.61	
TUBERIA CORRUGADA HDPE D=450 mm	m	25.20						1.06	11.00	10.65	2.48	
Cerco perimétrico de Obra	m	100.00	100.00									
PLASTIMENT TM-40 - PLASTIFICANTE	kg	2,251.73	87.52	246.66	238.70	246.66	246.66	238.70	246.66	238.70	246.66	214.83
LACA DESMOLDEADORA	gal	30.32	1.18	3.32	3.21	3.32	3.32	3.21	3.32	3.21	3.32	2.89
DESMOLDANTE PARA MADERA	gal	8.26	0.32	0.90	0.88	0.90	0.90	0.88	0.90	0.88	0.90	0.79
SELLADOR ELASTICO POLIURETANO SIKAFLEX 1A	pza	125.43	4.88	13.74	13.30	13.74	13.74	13.30	13.74	13.30	13.74	11.97
SELLO ELASTOMETRICO A BASE DE SILICONA	gal	28.80	1.12	3.15	3.05	3.15	3.15	3.05	3.15	3.05	3.15	2.75
ADITIVO CURADOR DE CONCRETO	gal	146.66	5.70	16.07	15.55	16.07	16.07	15.55	16.07	15.55	16.07	13.99
ADITIVO CONTROLADOR DE POLVO	l	42,400.00	1,648.06	4,644.52	4,494.70	4,644.52	4,644.52	4,494.70	4,644.52	4,494.70	4,644.52	4,045.23
MADERA TORNILLO	p2	915.51	35.59	100.29	97.05	100.29	100.29	97.05	100.29	97.05	100.29	87.35
MADERA TORNILLO INCLUYE CORTE PARA ENCOFRADO	p2	11,882.01	461.84	1,301.56	1,259.58	1,301.56	1,301.56	1,259.58	1,301.56	1,259.58	1,301.56	1,133.62
ESTACAS DE MADERA	und	300.00	11.66	32.86	31.80	32.86	32.86	31.80	32.86	31.80	32.86	28.62
TRIPLAY DE 19 mm PARA ENCOFRADO	pln	25.80	1.00	2.83	2.73	2.83	2.83	2.73	2.83	2.73	2.83	2.46
TRIPLAY DE 18 mm FENOLICO P/ENCOFRADO	pln	87.94	3.42	9.63	9.32	9.63	9.63	9.32	9.63	9.32	9.63	8.39
PINTURA ESMALTE	gal	49.95	1.94	5.47	5.30	5.47	5.47	5.30	5.47	5.30	5.47	4.77
PINTURA ASFALTICA	kg	558.31	21.70	61.16	59.19	61.16	61.16	59.19	61.16	59.19	61.16	53.27
IMPRIMANTE ASFALTICO	kg	244.26	9.49	26.76	25.89	26.76	26.76	25.89	26.76	25.89	26.76	23.30
Niple espiga-espiga con brida rompeagua de ffd, DN=300mm, L=0.50m	und	1.00	0.04	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.10
UNION FLEXIBLE DRESSER DN=300mm	und	2.00	0.08	0.22	0.21	0.22	0.22	0.21	0.22	0.21	0.22	0.19
ALMACEN PROVISIONAL	mes	10.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

MATERIAL	UND	METRADO	Abr-23	May-23	Jun-23	Jul-23	Ago-23	Set-23	Oct-23	Nov-23	Dic-23	Ene-24
TALLER MECANICO	mes	10.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
REJILLA METALICA 1.80x(2.39m - 2.70m)	und	1.00	0.04	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.10
REJILLA METALICA 2.00 x 2.30m	und	1.00	0.04	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.10
REJILLA METALICA 1.80x(2.23m - 2.52m)	und	1.00	0.04	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.10
REJILLA METALICA 1.80x(2.68m - 3.03m)	und	1.00	0.04	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.10
CANON POR EXTRACCION CANTERA	m3	40,728.83	1,991.19	5,611.53	5,430.51	5,611.53	5,611.53	5,430.51	5,611.53	5,430.51	0.00	0.00
CARPA COMEDOR (CAMPO)	mes	10.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
CONTENEDOR DE OFICINAS	mes	80.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00
MATERIALES (VARIOS)	%mt	148,738.16	5,781.34	16,292.87	15,767.30	16,292.87	16,292.87	15,767.30	16,292.87	15,767.30	16,292.87	14,190.57

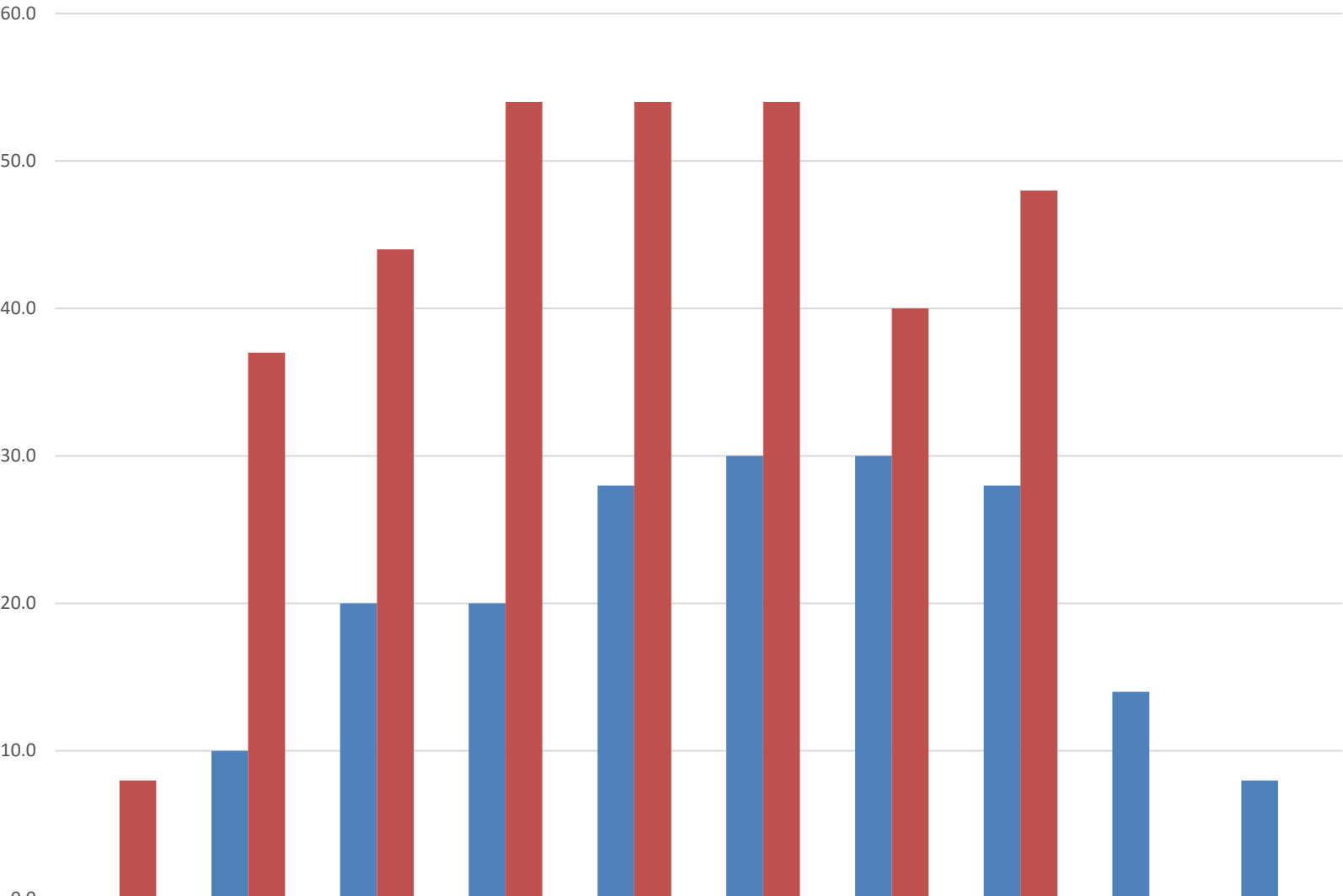
HISTOGRAMA MANO DE OBRA DIRECTA E INDIRECTA

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CAMIONES VOLQUETES



CAMIÓN VOLQUETE 8x4 - 22M3

CAMIÓN VOLQUETE DE 15 m3

M1

M2

M3

M4

M5

M6

M7

M8

M9

M10

0.0

10.0

20.0

20.0

28.0

30.0

30.0

28.0

14.0

8.0

8.0

37.0

44.0

54.0

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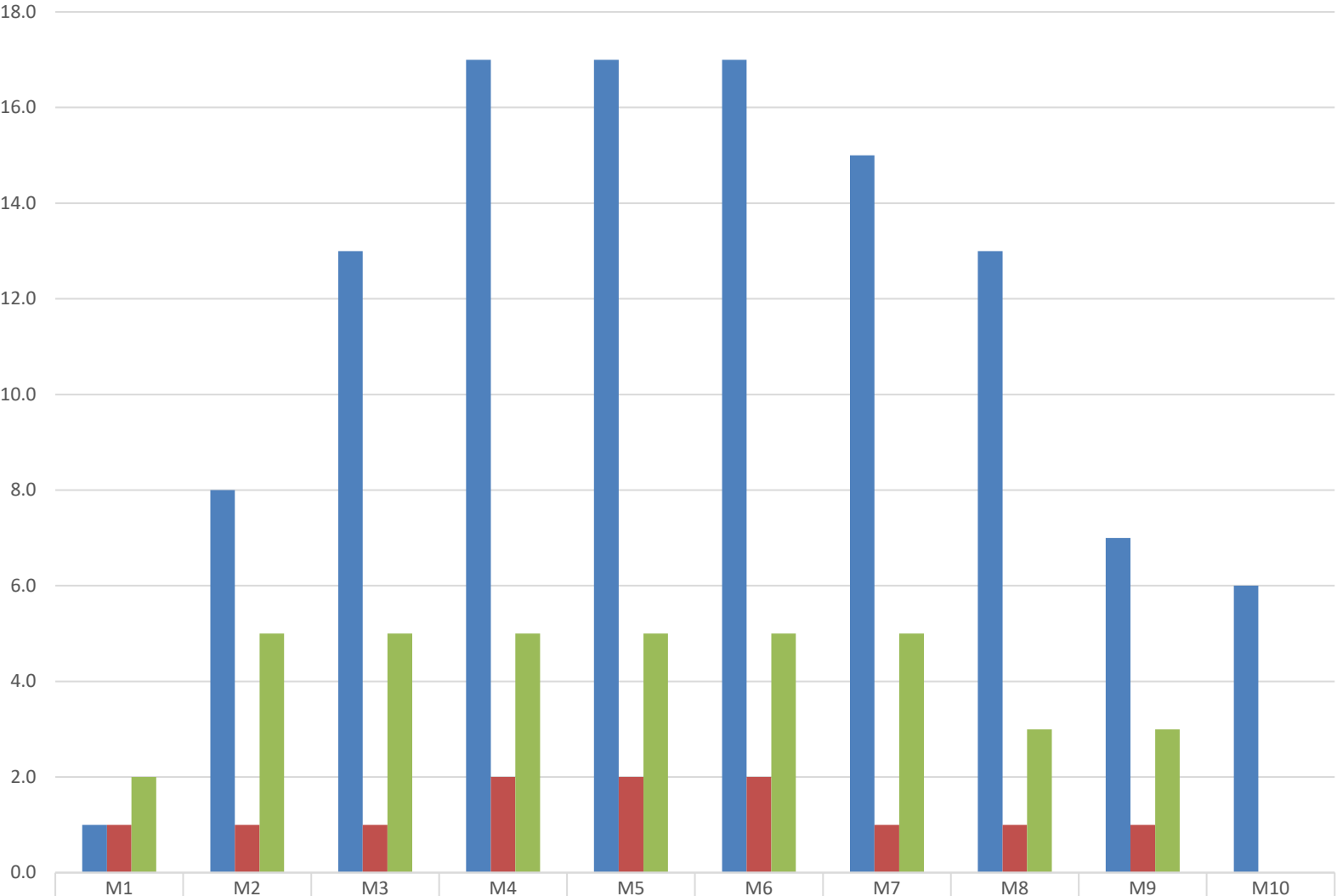
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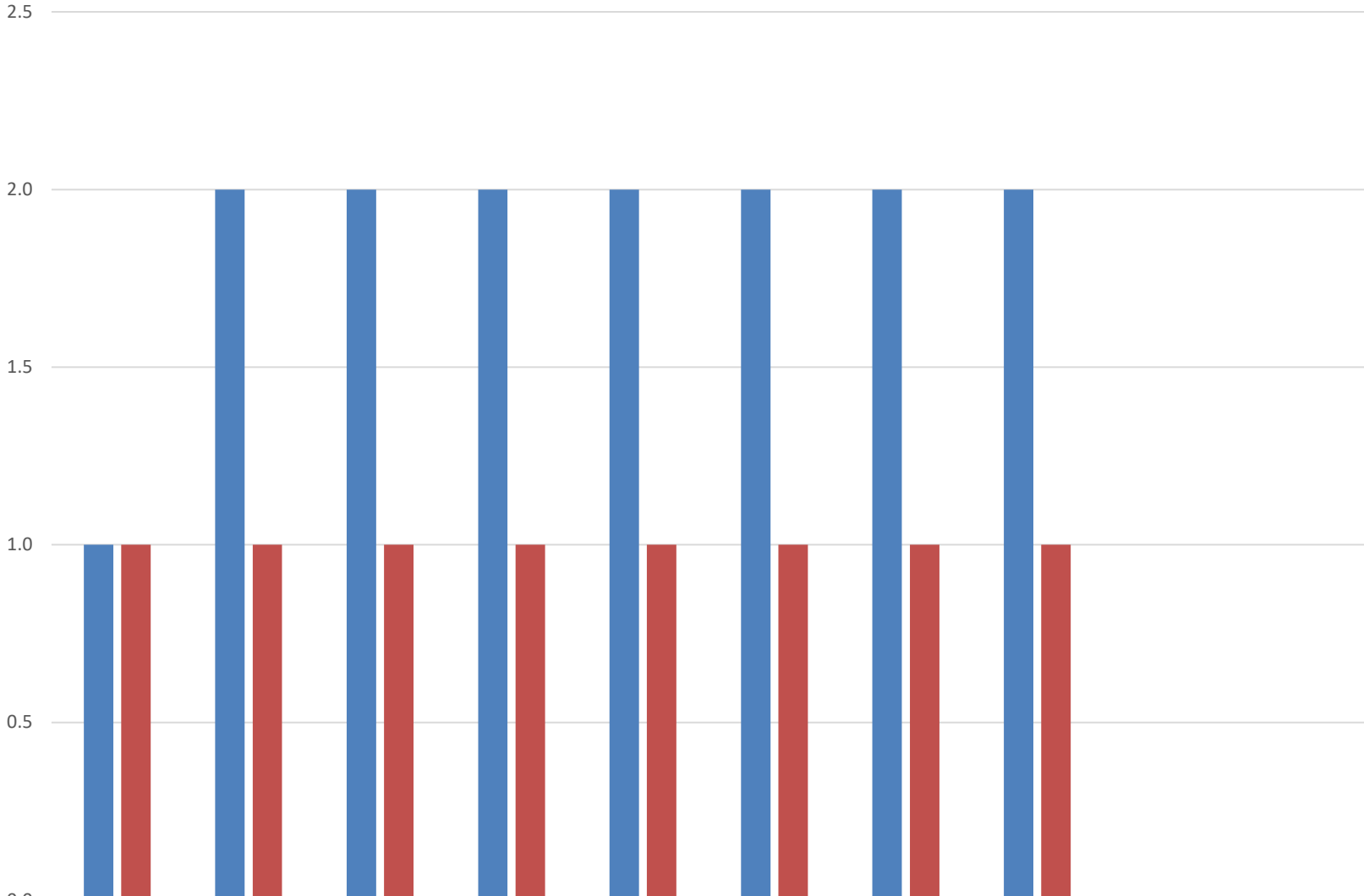
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EQUIPOS DE EXCAVACIÓN

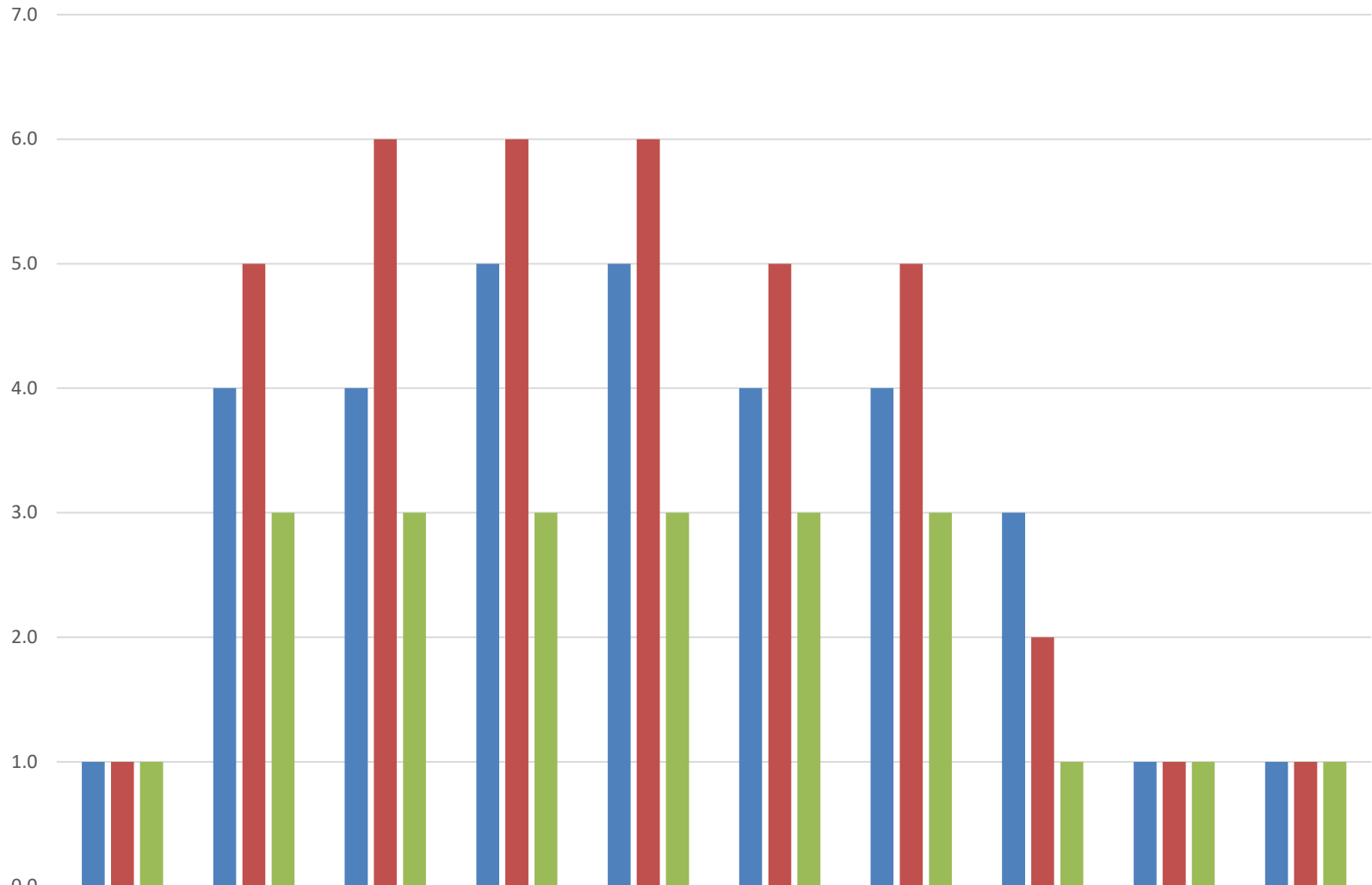


■ EXCAVADORA CAT 336	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10
■ TRACTOR SOBRE ORUGAS CAT D8T	1.0	8.0	13.0	17.0	17.0	17.0	15.0	13.0	7.0	6.0
■ TRACTOR SOBRE ORUGAS CAT D6T	1.0	1.0	1.0	2.0	2.0	2.0	1.0	1.0	1.0	0.0
	2.0	5.0	5.0	5.0	5.0	5.0	5.0	3.0	3.0	0.0

PLANTAS DE MATERIALES

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EQUIPOS RELLENO / MANTENIMIENTO

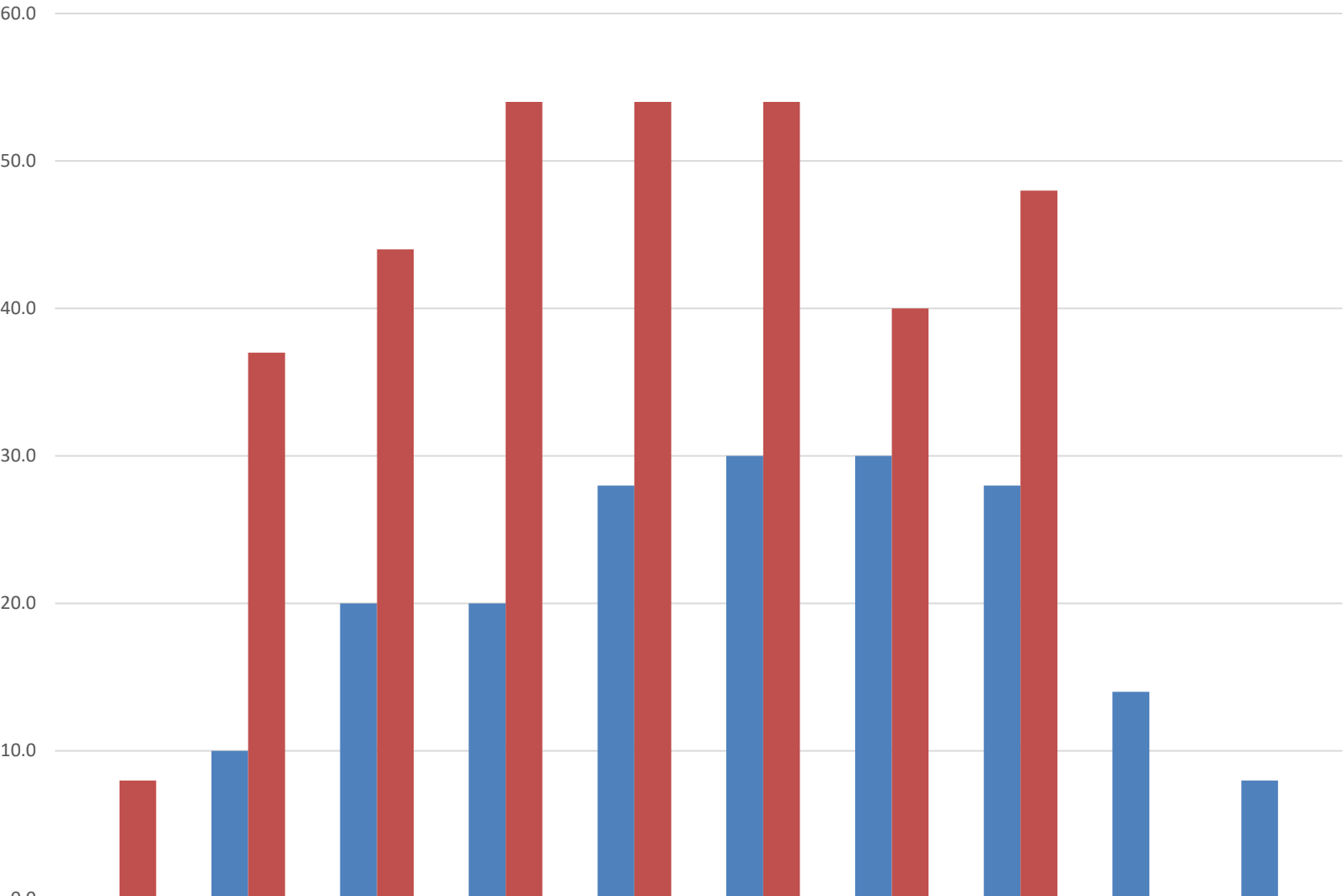


	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10
RODILLO LISO VIB. 10-12 TON	1.0	4.0	4.0	5.0	5.0	4.0	4.0	3.0	1.0	1.0
CAMIÓN CISTERNA (5000 GLNS.)	1.0	5.0	6.0	6.0	6.0	5.0	5.0	2.0	1.0	1.0
MOTONIVELADORA 140K	1.0	3.0	3.0	3.0	3.0	3.0	3.0	1.0	1.0	1.0

HISTOGRAMA DE EQUIPOS

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CAMIONES VOLQUETES



■ CAMIÓN VOLQUETE 8x4 - 22M3

■ CAMIÓN VOLQUETE DE 15 m3

M1

M2

M3

M4

M5

M6

M7

M8

M9

M10

0.0

10.0

20.0

20.0

28.0

30.0

30.0

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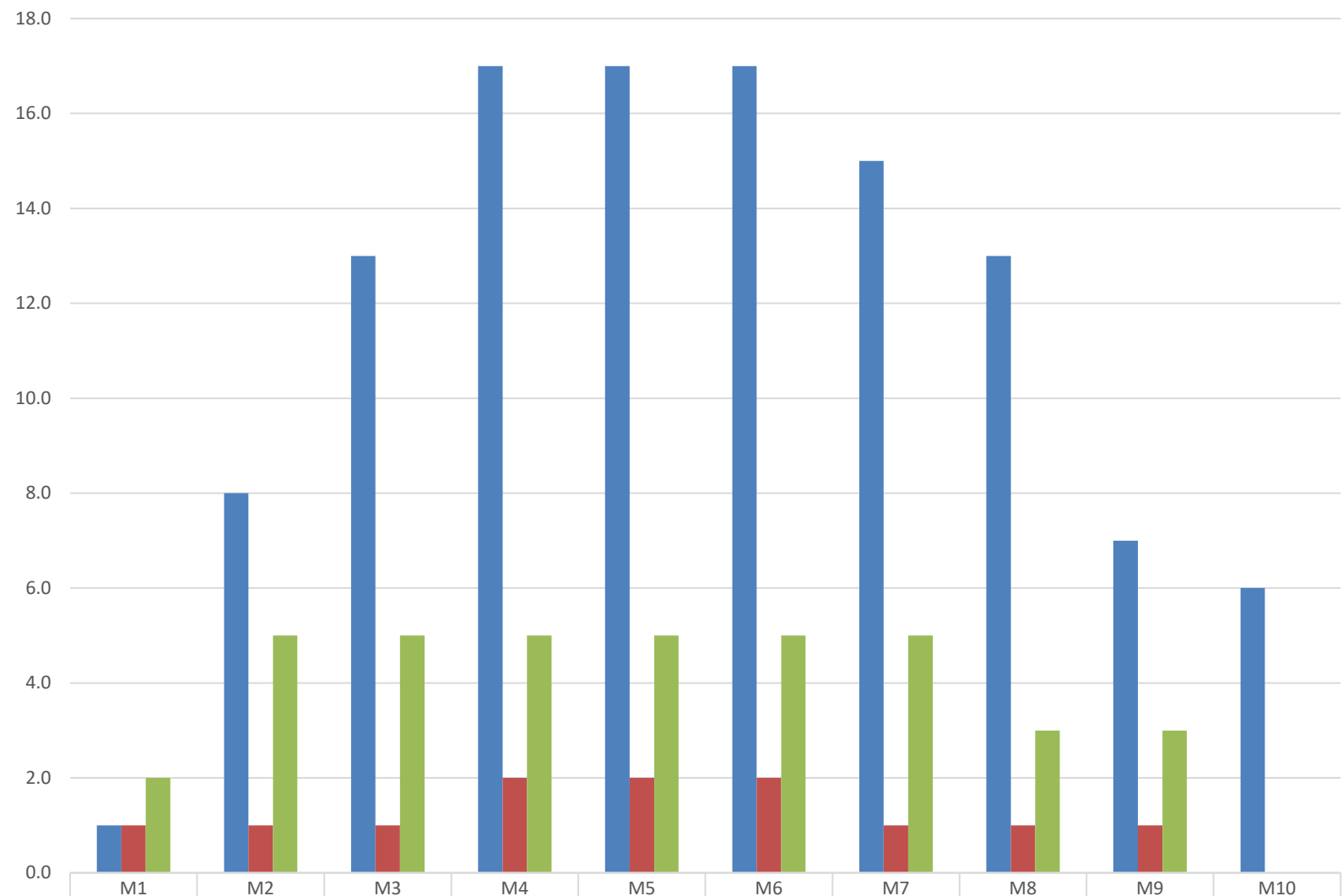
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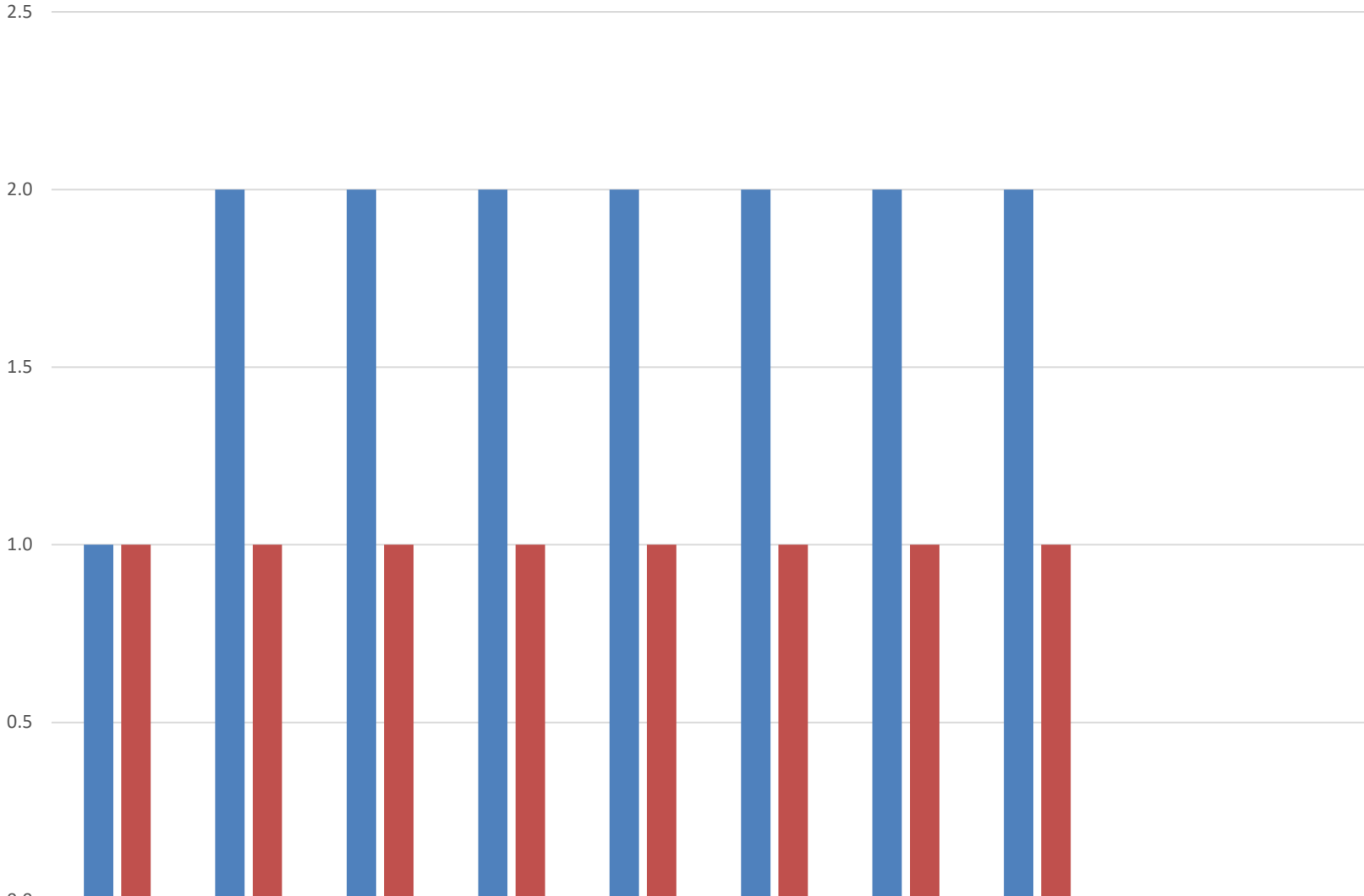
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EQUIPOS DE EXCAVACIÓN

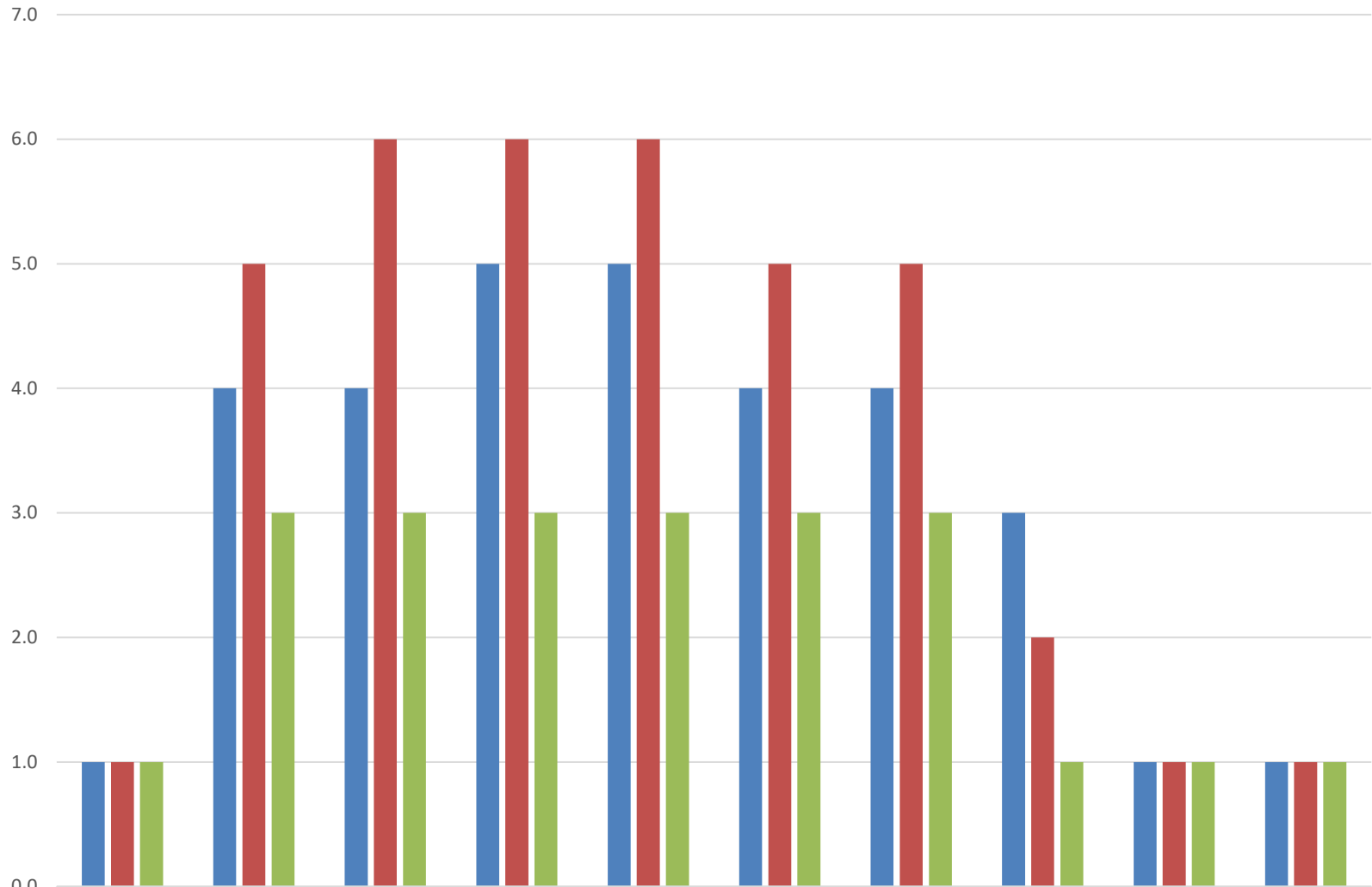


■ EXCAVADORA CAT 336	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10
■ TRACTOR SOBRE ORUGAS CAT D8T	1.0	8.0	13.0	17.0	17.0	17.0	15.0	13.0	7.0	6.0
■ TRACTOR SOBRE ORUGAS CAT D6T	1.0	1.0	1.0	2.0	2.0	2.0	1.0	1.0	1.0	0.0
	2.0	5.0	5.0	5.0	5.0	5.0	5.0	3.0	3.0	0.0

PLANTAS DE MATERIALES

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EQUIPOS RELLENO / MANTENIMIENTO



	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10
RODILLO LISO VIB. 10-12 TON	1.0	4.0	4.0	5.0	5.0	4.0	4.0	3.0	1.0	1.0
CAMIÓN CISTERNA (5000 GLNS.)	1.0	5.0	6.0	6.0	6.0	5.0	5.0	2.0	1.0	1.0
MOTONIVELADORA 140K	1.0	3.0	3.0	3.0	3.0	3.0	3.0	1.0	1.0	1.0

CURVAS ABC DE SUMINISTROS DE MATERIALES Y CANTIDADES

CURVA ABC DE SUMINISTRO DE MATERIALES Y CANTIDADES

Ítem	Descripción	Und.	Cantidad	Precio S/.	Parcial	% Parcial	% Acumulado	Clasificación
1	PETROLEO D-2	gal	1,297,975.1977	18.50	24,012,541.16	78.62%	78.62%	A
2	GEOTEXTIL DE 400GR/M2	m2	387,865.9510	7.67	2,974,931.84	9.74%	88.36%	B
3	TUBERIA CORRUGADA HDPE D=630 mm	m	974.4420	564.90	550,462.29	1.80%	90.16%	B
4	ADITIVO CONTROLADOR DE POLVO	l	42,400.0000	11.62	492,688.00	1.61%	91.78%	C
5	TUBERIA CORRUGADA HDPE D=1200 mm	m	290.1910	1,547.69	449,125.71	1.47%	93.25%	C
6	CEMENTO PORTLAND TIPO I (42.5 kg)	bol	14,168.3081	29.17	413,289.55	1.35%	94.60%	C
7	Tubería HDPE Corrugado de 900 mm	m	204.2040	910.52	185,931.83	0.61%	95.21%	C
8	ACERO CORRUGADO fy = 4200 kg/cm2 GRADO 60	kg	39,727.5120	4.68	185,924.76	0.61%	95.82%	C
9	MATERIALES (VARIOS)	%mt	148,738.1600	1.00	148,738.16	0.49%	96.30%	C
10	TUBERIA CORRUGADA HDPE D=1000 mm	m	131.0400	1,103.60	144,615.74	0.47%	96.78%	C
11	CANON POR EXTRACCION CANTERA	m3	40,728.8295	3.12	127,073.95	0.42%	97.19%	C
12	GAVION COLCHON 8 x 10 CM, 2.70 MM (H=0.30m)	m2	1,134.6300	75.00	85,097.25	0.28%	97.47%	C
13	Peaje local	vje	9,557.0945	8.00	76,456.76	0.25%	97.72%	C
14	PIEDRA CHANCADA	m3	873.6663	83.20	72,689.04	0.24%	97.96%	C
15	MADERA TORNILLO INCLUYE CORTE PARA ENCOFRADO	p2	11,882.0100	5.72	67,965.10	0.22%	98.18%	C
16	ARENA GRUESA	m3	1,046.21	62.40	65,283.57	0.21%	98.40%	C
17	WATER STOP (anillos de estanqueidad); DN=1200mm	und	22.8000	1,948.10	44,416.68	0.15%	98.54%	C
18	CONTENEDOR DE OFICINAS	mes	80.0000	550.00	44,000.00	0.14%	98.69%	C
19	TALLER MECANICO	mes	10.0000	3,500.00	35,000.00	0.11%	98.80%	C
20	REJILLA METALICA 1.80x(2.68m - 3.03m)	und	1.0000	27,866.00	27,866.00	0.09%	98.89%	C
21	REJILLA METALICA 2.00 x 2.30m	und	1.0000	24,945.00	24,945.00	0.08%	98.97%	C
22	REJILLA METALICA 1.80x(2.39m - 2.70m)	und	1.0000	24,840.00	24,840.00	0.08%	99.06%	C
23	REJILLA METALICA 1.80x(2.23m - 2.52m)	und	1.0000	23,180.00	23,180.00	0.08%	99.13%	C
24	ALMACEN PROVISIONAL	mes	10.0000	2,080.00	20,800.00	0.07%	99.20%	C
25	CARPA COMEDOR (CAMPO)	mes	10.0000	2,080.00	20,800.00	0.07%	99.27%	C
26	Tubería HDPE Corrugado de 600 mm	m	39.3250	509.60	20,040.02	0.07%	99.33%	C
27	GAVION TIPO CAJA DE 1x1x5 m (3.4 mm) abert: 10x12 cm	und	31.1700	585.30	18,243.80	0.06%	99.39%	C
28	ALAMBRE NEGRO #16	kg	1,928.5200	7.90	15,235.31	0.05%	99.44%	C
29	PLASTIMENT TM-40 - PLASTIFICANTE	kg	2,251.7296	6.76	15,221.69	0.05%	99.49%	C
30	DOWELL LISO Ø 3/4", L=500, c/0.50m	kg	1,858.5000	8.01	14,886.59	0.05%	99.54%	C
31	WATER STOP (anillos de estanqueidad); DN=900mm	und	15.2000	976.14	14,837.33	0.05%	99.59%	C
32	ALAMBRE NEGRO #8	kg	1,909.3950	7.60	14,511.40	0.05%	99.64%	C
33	IMPRIMANTE ASFALTICO	kg	244.2615	58.34	14,250.22	0.05%	99.68%	C
34	TRIPLAY DE 18 mm FENOLICO P/ENCOFRADO	pln	87.9370	135.00	11,871.50	0.04%	99.72%	C
35	PINTURA ASFALTICA	kg	558.3120	21.10	11,780.38	0.04%	99.76%	C

CURVA ABC DE SUMINISTRO DE MATERIALES Y CANTIDADES

Ítem	Descripción	Und.	Cantidad	Precio SI.	Parcial	% Parcial	% Acumulado	Clasificación
36	Cerco perimétrico de Obra	m	100.0000	97.76	9,776.00	0.03%	99.79%	C
37	TUBERIA CORRUGADA HDPE D=450 mm	m	25.2000	372.50	9,387.00	0.03%	99.82%	C
38	SELLO ELASTOMETRICO A BASE DE SILICONA	gal	28.8000	257.70	7,421.76	0.02%	99.85%	C
39	SELLADOR ELASTICO POLIURETANO SIKAFLEX 1A	pza	125.4282	55.00	6,898.55	0.02%	99.87%	C
40	LACA DESMOLDEADORA	gal	30.3231	207.58	6,294.47	0.02%	99.89%	C
41	ALAMBRE NEGRO RECOCIDO #8	kg	733.1360	7.90	5,791.77	0.02%	99.91%	C
42	MADERA TORNILLO	p2	915.5050	5.50	5,035.28	0.02%	99.93%	C
43	TRIPLAY DE 19 mm PARA ENCOFRADO	pln	25.8000	140.40	3,622.32	0.01%	99.94%	C
44	CLAVOS PARA MADERA CON CABEZA DE 3"	kg	573.8414	5.80	3,328.28	0.01%	99.95%	C
45	ANCLAJES	und	64.0000	45.00	2,880.00	0.01%	99.96%	C
46	UNION FLEXIBLE DRESSER DN=300mm	und	2.0000	1,008.90	2,017.80	0.01%	99.97%	C
47	Tuberia ASTM A53SCH-40, DN=300mm HD	m	3.5500	480.00	1,704.00	0.01%	99.97%	C
48	PINTURA ESMALTE	gal	49.9505	33.60	1,678.34	0.01%	99.98%	C
49	ESTACAS DE MADERA	und	300.0000	5.50	1,650.00	0.01%	99.98%	C
50	MATERIAL DE RESPALDO 1" PARA JUNTAS 20 mm	m	630.0000	2.40	1,512.00	0.00%	99.99%	C
51	ADITIVO CURADOR DE CONCRETO	gal	146.6595	8.43	1,236.34	0.00%	99.99%	C
52	DESMOLDANTE PARA MADERA	gal	8.2560	117.50	970.08	0.00%	99.99%	C
53	TECNOPOR DE 1/2"X4X8'	pln	24.9979	20.00	499.96	0.00%	100.00%	C
54	Niple espiga-espiga con brida rompeagua de ffd, DN=300mm, L=0.50m	und	1.0000	420.00	420.00	0.00%	100.00%	C
55	CLAVOS	kg	51.6000	6.03	311.15	0.00%	100.00%	C
56	ACERO CORRUGADO fy = 4200 kg/cm2 GRADO 60 DE 3/8" X 9 m	var	10.0000	24.44	244.40	0.00%	100.00%	C
57	YESO BOLSA 20 KG	bol	5.0000	18.00	90.00	0.00%	100.00%	C

30,542,310.13

CURVA ABC DE SUMINISTRO DE MATERIALES Y CANTIDADES

Clasificación	# Productos	% Productos	Costo	% Costo	% Costo Acum.
A	1	1.75%	S.24,012,541.16	78.62%	78.62%
B	2	3.51%	S.3,525,394.13	11.54%	90.16%
C	54	94.74%	S.3,004,374.84	9.84%	100.00%
	57		S.30,542,310.13		

