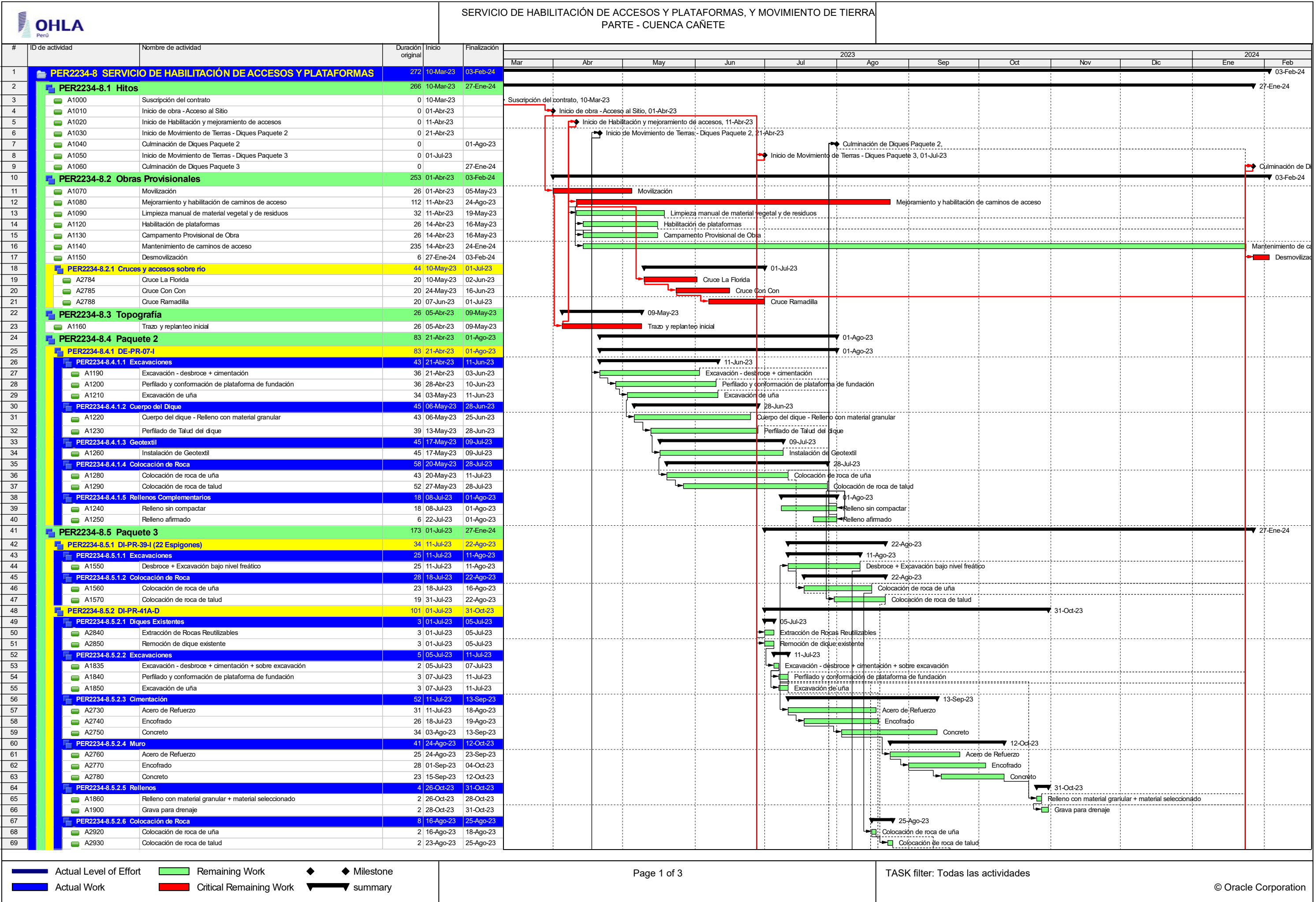


ÍNDICE

B8	Cronograma e Histograma de Mano de Obra y Equipos
	Cronograma de Obra en Primavera P6, Nivel 4
	Cronograma de Adquisición de Materiales
	Histograma Mano de Obra Directa e Indirecta
	Histograma de Equipos
	Curva ABC de suministro de materiales y cantidades

CRONOGRAMA DE OBRA

Cronograma General



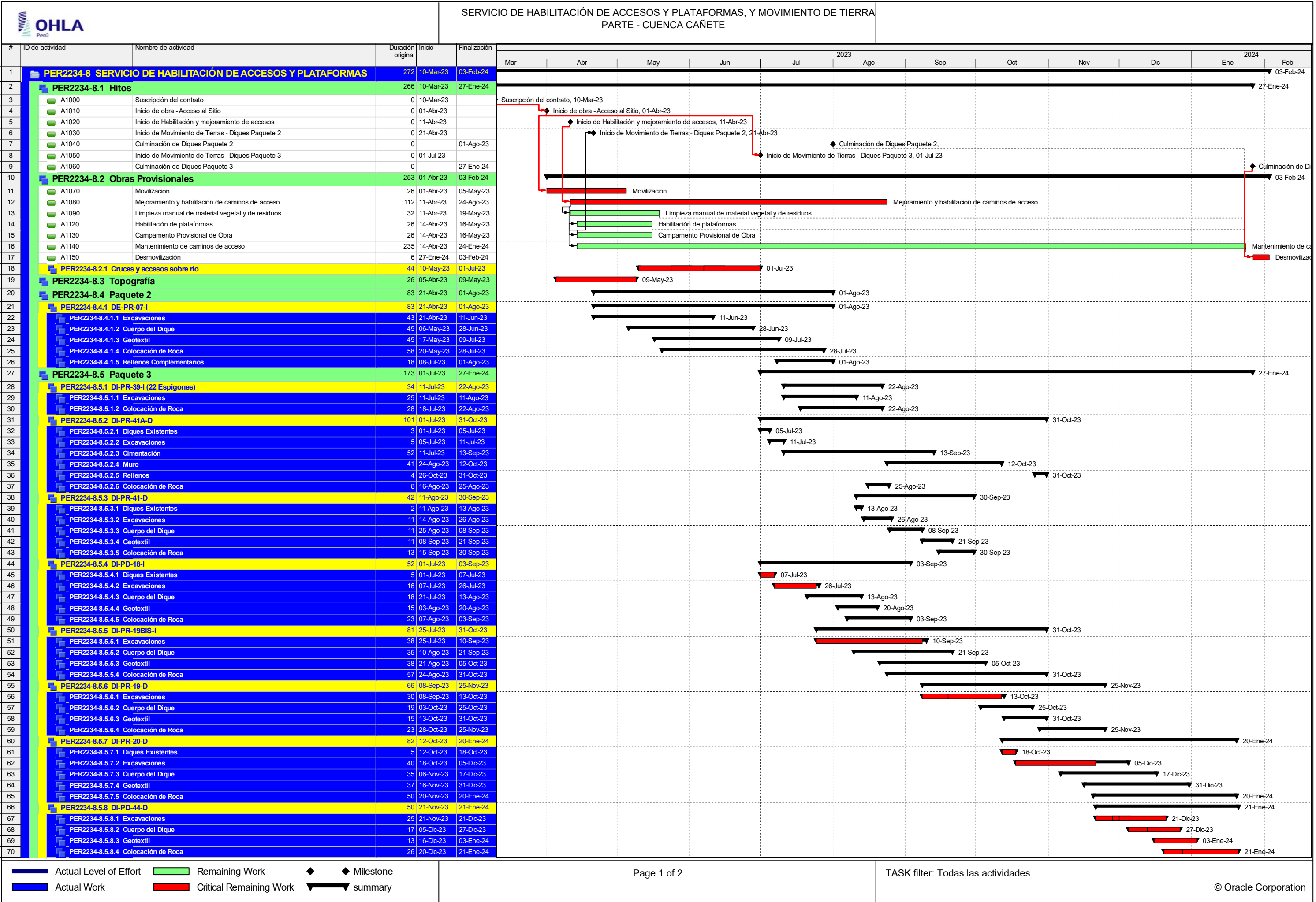
 Actual Level of Effort
  Remaining Work
  Milestone

 Actual Work
 Critical Remaining Work
 summary

 Actual Level of Effort
  Remaining Work
  Milestone

 Actual Work
 Critical Remaining Work
 summary

Cronograma – Nivel 4



OHLA Perú				SERVICIO DE HABILITACIÓN DE ACCESOS Y PLATAFORMAS, Y MOVIMIENTO DE TIERRA															
#	ID de actividad	Nombre de actividad	Duración original	Inicio	Finalización	2023												2024	
						Mar	Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic	Ene	Feb		
71		PER2234-8.5.9 DE-PR-45-D	46	01-Dic-23	27-Ene-24														
72		PER2234-8.5.9.1 Excavaciones	21	01-Dic-23	28-Dic-23														
73		PER2234-8.5.9.2 Cuerpo del Dique	10	26-Dic-23	07-Ene-24														
74		PER2234-8.5.9.3 Geotextil	8	03-Ene-24	12-Ene-24														
75		PER2234-8.5.9.4 Colocación de Roca	15	10-Ene-24	27-Ene-24														
76		PER2234-8.5.10 Rellenos Complementarios	70	30-Oct-23	24-Ene-24														
77		PER2234-8.6 Obras Civiles	230	21-Abr-23	25-Ene-24														
78		PER2234-8.6.1 Paquete 2	54	21-Abr-23	24-Jun-23														
79		PER2234-8.6.2 Paquete 3	171	01-Jul-23	25-Ene-24														
80		PER2234-8.7 Accesos	36	11-Dic-23	24-Ene-24														

Actual Level of Effort

Actual Work

Remaining Work

Critical Remaining Work

Milestone

summary

Page 2 of 2

TASK filter: Todas las actividades

© Oracle Corporation

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	1,096,004.97	29,684.12	98,428.86	112,567.27	129,683.91	138,782.24	129,520.27	125,985.67	123,040.17	120,880.13	87,432.32
ALAMBRE NEGRO RECOCIDO #8	kg	883.40	36.06	97.35	0.00	111.78	111.78	108.17	111.78	108.17	111.78	86.54
ALAMBRE NEGRO #16	kg	4,180.55	170.63	460.71	0.00	528.97	528.97	511.90	528.97	511.90	528.97	409.52
ALAMBRE NEGRO #8	kg	47.40	1.93	5.22	0.00	6.00	6.00	5.80	6.00	5.80	6.00	4.64
ACERO CORRUGADO fy = 4200 kg/cm2 GRADO 60 DE 3/8" X 9 m	var	10.00	0.41	1.10	0.00	1.27	1.27	1.22	1.27	1.22	1.27	0.98
ACERO CORRUGADO fy = 4200 kg/cm2 GRADO 60	kg	86,119.33	3,515.07	9,490.70	0.00	10,896.73	10,896.73	10,545.22	10,896.73	10,545.22	10,896.73	8,436.18
DOWELL LISO Ø 3/4", L=500, c/0.50m	kg	1,759.38	71.81	193.89	0.00	222.62	222.62	215.43	222.62	215.43	222.62	172.35
CLAVOS PARA MADERA CON CABEZA DE 3"	kg	733.31	29.93	80.81	0.00	92.79	92.79	89.79	92.79	89.79	92.79	71.83
CLAVOS	kg	47.40	1.93	5.22	0.00	6.00	6.00	5.80	6.00	5.80	6.00	4.64
ANCLAJES	und	40.00	1.63	4.41	0.00	5.06	5.06	4.90	5.06	4.90	5.06	3.92
PIEDRA CHANCADA	m3	1,225.24	50.01	135.03	0.00	155.03	155.03	150.03	155.03	150.03	155.03	120.02
ARENA GRUESA	m3	1,603.76	65.46	176.74	0.00	202.93	202.93	196.38	202.93	196.38	202.93	157.10
MATERIAL DE RESPALDO 1/2" PARA JUNTAS 10 mm	m	105.50	4.31	11.63	0.00	13.35	13.35	12.92	13.35	12.92	13.35	10.33
MATERIAL DE RESPALDO 1" PARA JUNTAS 20 mm	m	596.40	24.34	65.73	0.00	75.46	75.46	73.03	75.46	73.03	75.46	58.42
GEOTEXTIL DE 400GR/M2	m2	306,738.22	0.00	23,716.87	47,433.75	14,230.12	42,690.37	36,365.87	49,014.87	25,298.00	49,014.87	18,973.50
Geotextil no tejido 200gr/m2	m2	110.52	4.51	12.18	0.00	13.98	13.98	13.53	13.98	13.53	13.98	10.83
TECNOPOR DE 1/2"X4X8'	pln	185.36	7.57	20.43	0.00	23.45	23.45	22.70	23.45	22.70	23.45	18.16
WATER STOP (anillos de estanqueidad); DN=900mm	und	20.00	0.82	2.20	0.00	2.53	2.53	2.45	2.53	2.45	2.53	1.96
WATER STOP (anillos de estanqueidad); DN=1200mm	und	2.00	0.08	0.22	0.00	0.25	0.25	0.24	0.25	0.24	0.25	0.20
CEMENTO PORTLAND TIPO I (42.5 kg)	bol	21,840.36	891.44	2,406.90	0.00	2,763.47	2,763.47	2,674.33	2,763.47	2,674.33	2,763.47	2,139.46
YESO BOLSA 20 KG	bol	5.00	0.20	0.55	0.00	0.63	0.63	0.61	0.63	0.61	0.63	0.49
TUBERIA CORRUGADA HDPE D=630 mm	m	567.20	0.00	31.87	152.95	0.00	0.00	0.00	0.00	25.49	197.56	159.33
TUBERIA CORRUGADA HDPE D=1000 mm	m	430.50		177.26	253.24							
Tubería HDPE Corrugado de 900 mm	m	511.73	0.00	28.75	137.99	0.00	0.00	0.00	0.00	23.00	178.24	143.74
TUBERIA CORRUGADA HDPE D=1200 mm	m	14.09	0.00	0.79	3.80	0.00	0.00	0.00	0.00	0.63	4.91	3.96
Cerco perimétrico de Obra	m	100.00	100.00									
PLASTIMENT TM-40 - PLASTIFICANTE	kg	3,494.87	142.65	385.15	0.00	442.21	442.21	427.94	442.21	427.94	442.21	342.35
LACA DESMOLDEADORA	gal	57.46	2.35	6.33	0.00	7.27	7.27	7.04	7.27	7.04	7.27	5.63
DESMOLDANTE PARA MADERA	gal	7.58	0.31	0.84	0.00	0.96	0.96	0.93	0.96	0.93	0.96	0.74
SELLADOR ELASTICO POLIURETANO SIKAFLEX 1A	pza	930.06	37.96	102.50	0.00	117.68	117.68	113.88	117.68	113.88	117.68	91.11
SELLO ELASTOMETRICO A BASE DE SILICONA	gal	27.26	1.11	3.00	0.00	3.45	3.45	3.34	3.45	3.34	3.45	2.67
ADITIVO CURADOR DE CONCRETO	gal	229.26	9.36	25.27	0.00	29.01	29.01	28.07	29.01	28.07	29.01	22.46
ADITIVO CONTROLADOR DE POLVO	l	35,000.00	1,428.57	3,857.14	0.00	4,428.57	4,428.57	4,285.71	4,428.57	4,285.71	4,428.57	3,428.57
MADERA TORNILLO	p2	884.56	36.10	97.48	0.00	111.92	111.92	108.31	111.92	108.31	111.92	86.65
MADERA TORNILLO INCLUYE CORTE PARA ENCOFRADO	p2	14,084.88	574.89	1,552.21	0.00	1,782.17	1,782.17	1,724.68	1,782.17	1,724.68	1,782.17	1,379.74
ESTACAS DE MADERA	und	300.00	12.24	33.06	0.00	37.96	37.96	36.73	37.96	36.73	37.96	29.39
TRIPLAY DE 19 mm PARA ENCOFRADO	pln	23.70	0.97	2.61	0.00	3.00	3.00	2.90	3.00	2.90	3.00	2.32
TRIPLAY DE 18 mm FENOLICO P/ENCOFRADO	pln	166.65	6.80	18.36	0.00	21.09	21.09	20.41	21.09	20.41	21.09	16.32
PINTURA ESMALTE	gal	51.06	2.08	5.63	0.00	6.46	6.46	6.25	6.46	6.25	6.46	5.00
PINTURA ASFALTICA	kg	624.33	25.48	68.80	0.00	79.00	79.00	76.45	79.00	76.45	79.00	61.16
IMPRIMANTE ASFALTICO	kg	273.15	11.15	30.10	0.00	34.56	34.56	33.45	34.56	33.45	34.56	26.76
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
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
SEÑALIZACION EN OBRA	mes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
REJILLA METALICA 2.20x1.80m	und	1.00	0.04	0.11	0.00	0.13	0.13	0.12	0.13	0.12	0.13	0.10
CANON POR EXTRACCION CANTERA	m3	38,280.18	1,973.21	6,116.94	5,919.62	6,116.94	6,116.94	5,919.62	6,116.94			
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

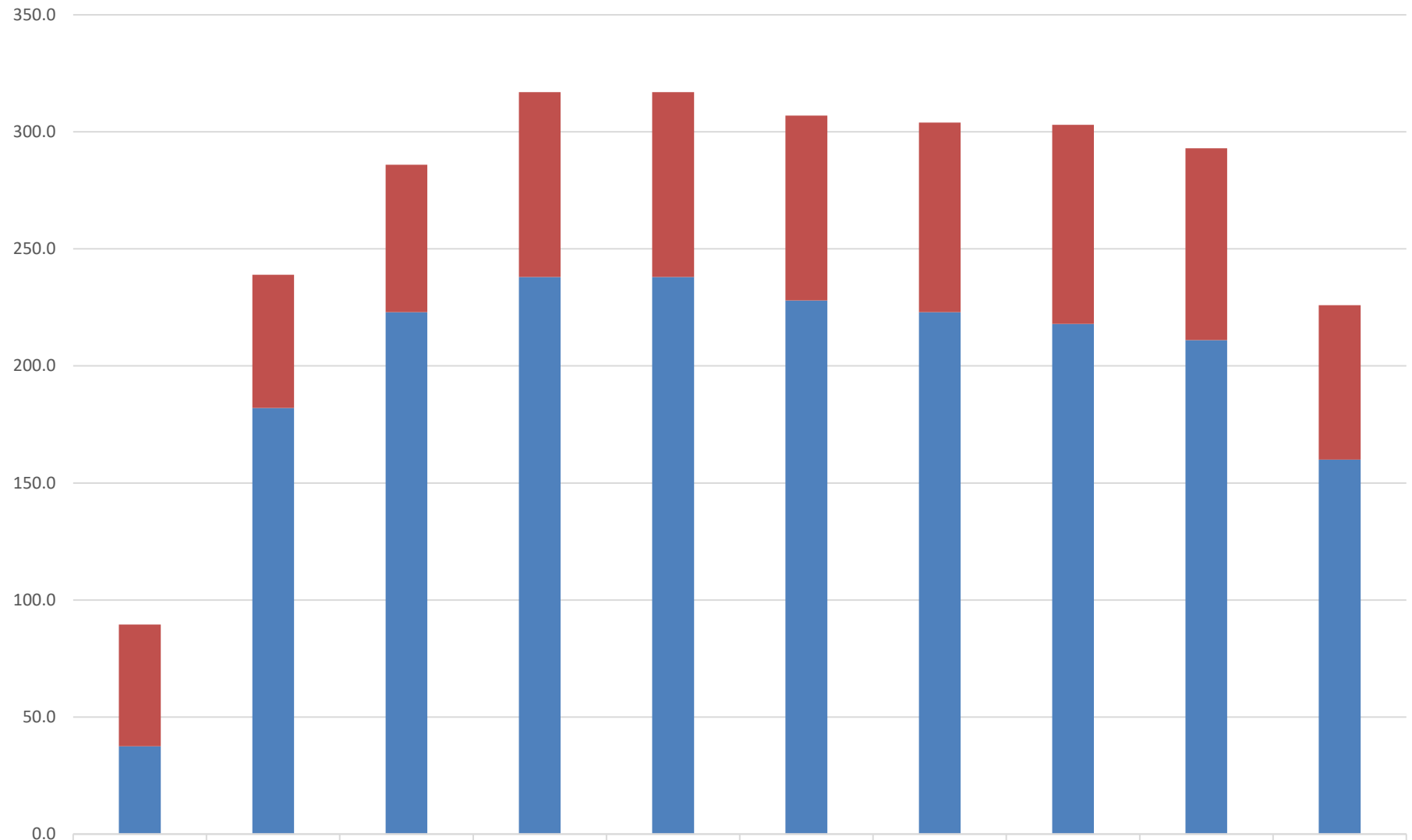
HISTOGRAMA MANO DE OBRA DIRECTA E INDIRECTA

Proyecto:
Río:
N° del Paquete:
Nombre del Paquete:
Referencia: TDR-Anexo 12

Ingeniero de Oficina Técnica	Und.	10	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Responsable de EDP	Und.	10	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Responsable de SDC y ODC	Und.	10	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Jefe de Topografía	Und.	10	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Ingeniero de Planeamiento y costos	Und.	10	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Responsable de Calidad	Und.	10	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Jefe de Laboratorio de Suelos	Und.	10	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Jefe de Producción	Und.	10	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Administrador de Obra	Und.	7				1.0	1.0	1.0	1.0	1.0	1.0	1.0
Jefe de Recursos Humanos	Und.	7				1.0	1.0	1.0	1.0	1.0	1.0	1.0
PERSONAL STAFF - MOI	Und.	144	13.0	13.0	13.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0

* Los cargos deben ser definidos por cada Postor de acuerdo a su organigrama. Es indispensable incluir las posiciones claves en el histograma de Mano de Obra Indirecta.

MANO DE OBRA



■ M.O Indirecta

■ M.O Directa

M1

M2

M3

M4

M5

M6

M7

M8

M9

M10

52

57

63

79

79

79

81

85

82

66

37.5

182.0

223.0

238.0

238.0

228.0

223.0

218.0

211.0

160.0

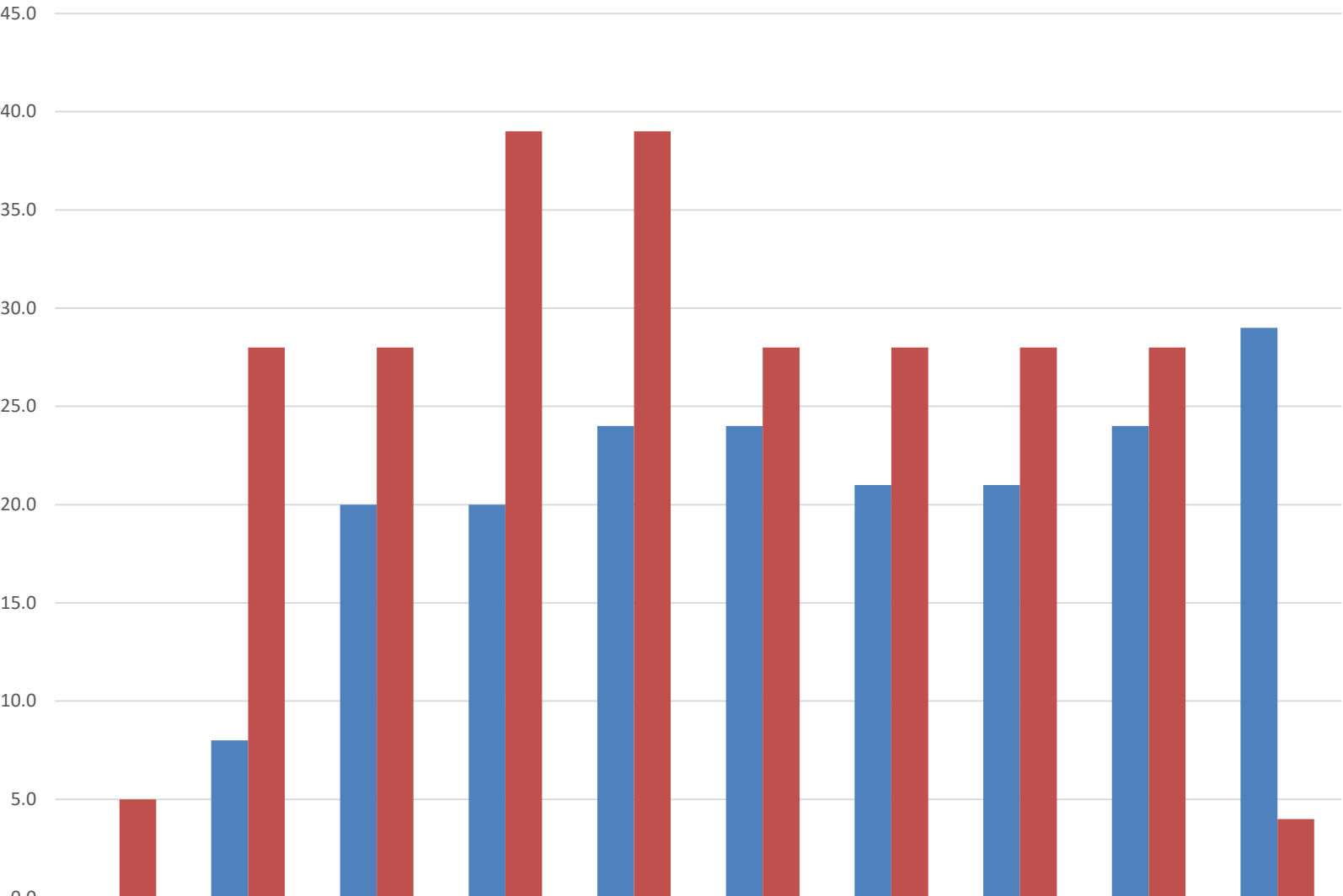
HISTOGRAMA DE EQUIPOS

Proyecto:
Río:
N° del Paquete:
Nombre del Paquete:
Referencia:

DISTRIBUCIÓN MENSUAL DE MATERIALES DE EQUIPOS AUXILIARES Y MOVILIDAD PARA EL PERSONAL

			M1	M2	M3	M4	M5	M6	M7	M8	M9	M10
TOTAL	Und.	188	9	16	16	19	20	21	21	22	22	22
LUMINARIA TORRE - 4 PANTALLAS OBRA	Und.	80	1.0	6.0	6.0	8.0	9.0	10.0	10.0	10.0	10.0	10.0
GRUPO ELECTROGENO DE 50 KW.	Und.	10	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
GRUPO ELECTROGENO 140 HP 90 KW.	Und.	10	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
EQUIPOS CONST., SSGG, MANT.	Und.	100	3.0	8.0	8.0	10.0	11.0	12.0	12.0	12.0	12.0	12.0
Custer de 30 pasajeros	Und.	10	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Bus de 50 pasajeros	Und.	31	1.0	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	4.0
Camioneta 4x4 (3pax)	Und.	47	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Cama Baja + Tracto remolcador	Und.	10	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
MOVILIDAD	Und.	88	6.0	8.0	8.0	9.0	9.0	9.0	9.0	10.0	10.0	10.0

CAMIONES VOLQUETES



■ CAMIÓN VOLQUETE 8x4 - 22M3

■ CAMIÓN VOLQUETE DE 15 m3

M1

M2

M3

M4

M5

M6

M7

M8

M9

M10

0.0

8.0

20.0

20.0

24.0

24.0

21.0

21.0

24.0

29.0

5.0

28.0

28.0

39.0

39.0

28.0

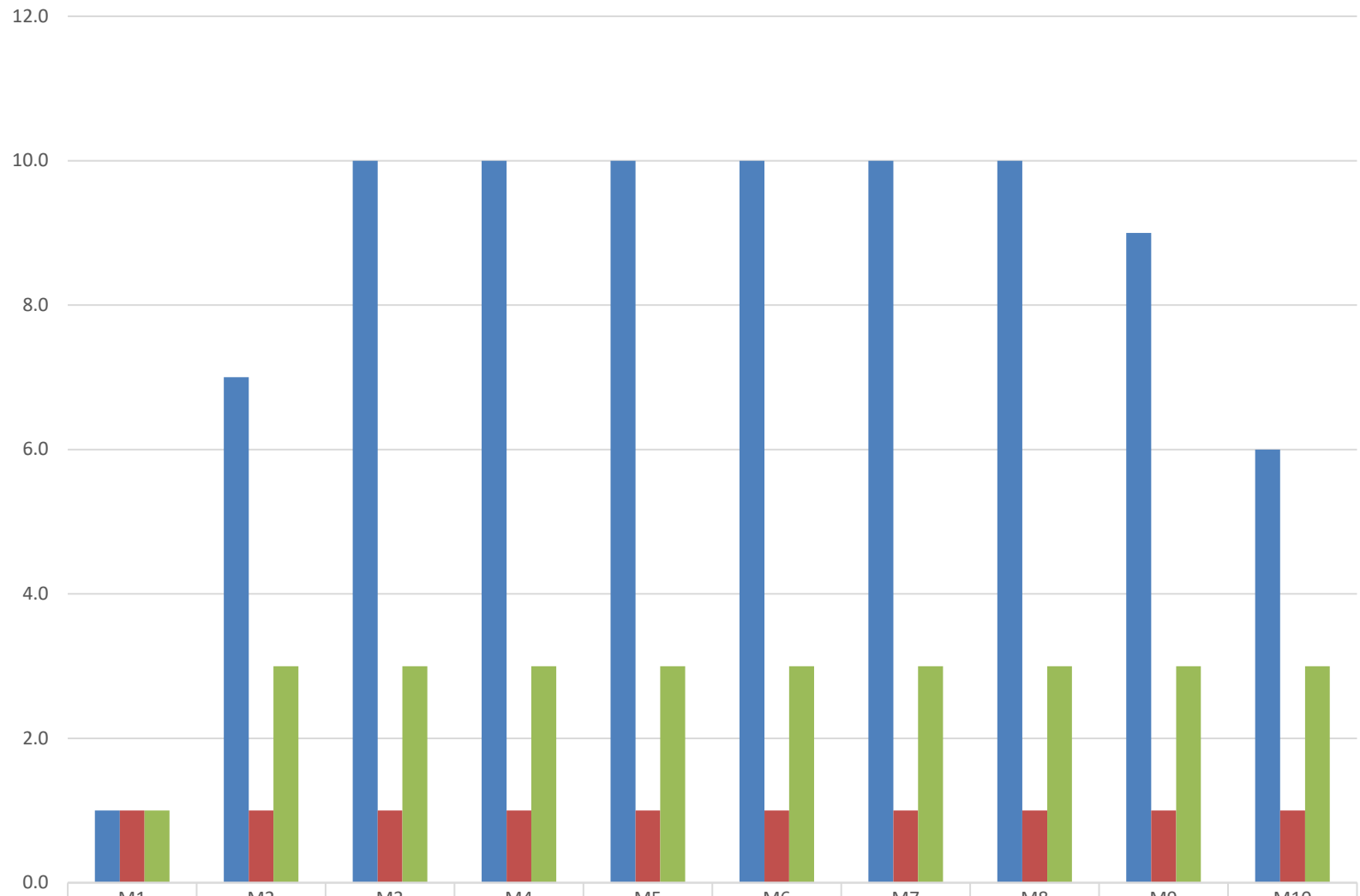
28.0

28.0

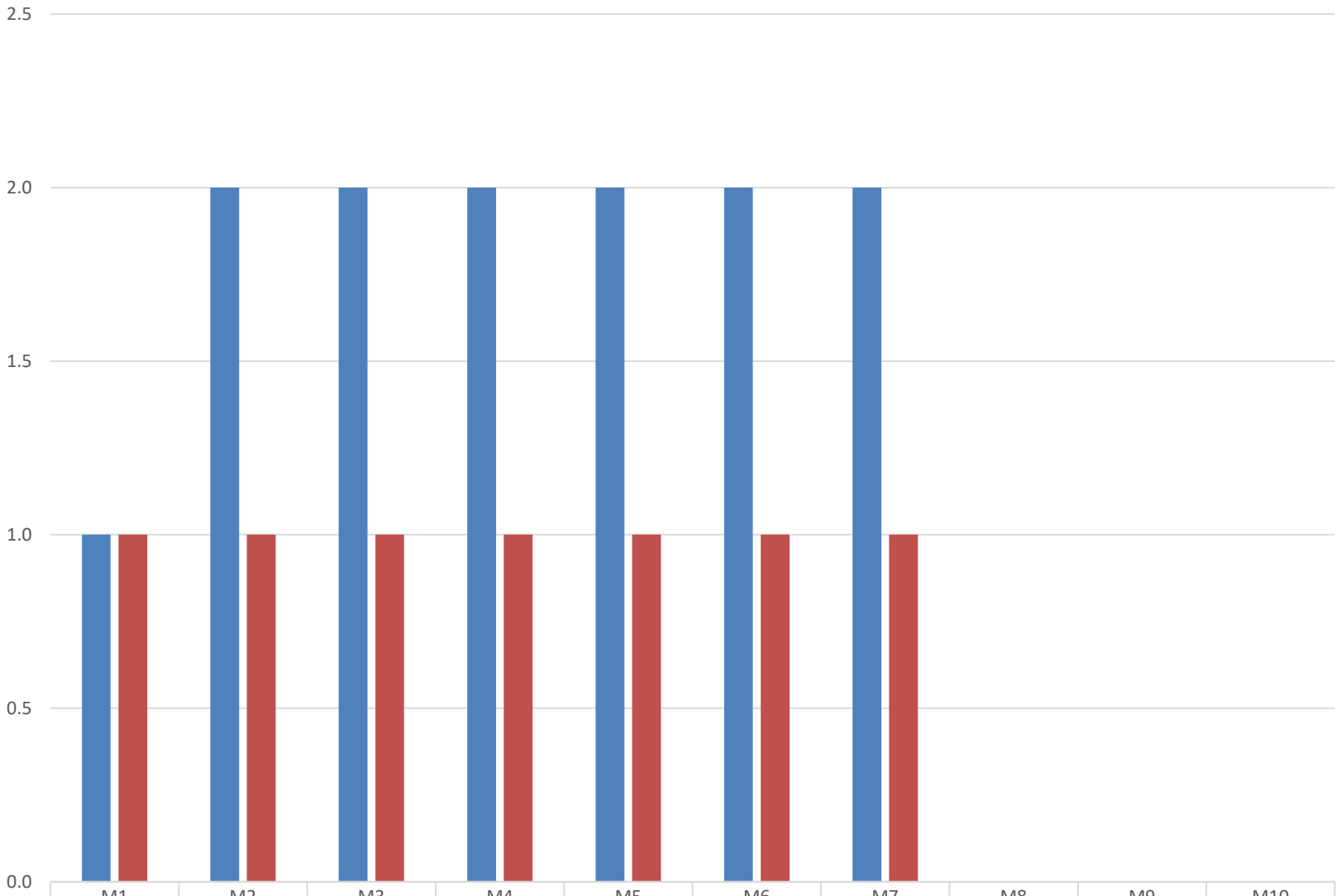
28.0

4.0

EQUIPOS DE EXCAVACIÓN

[illegible]

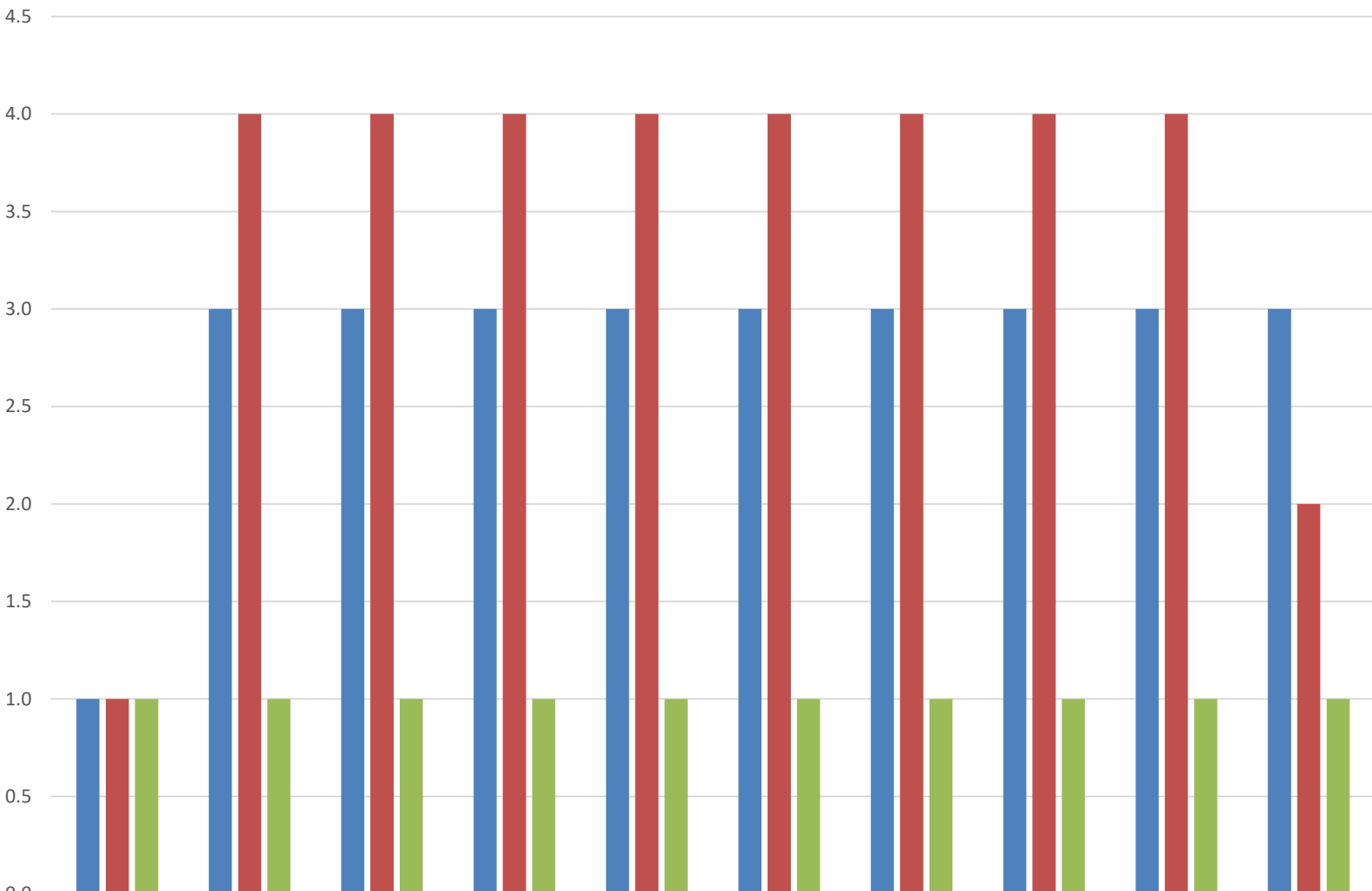
PLANTAS DE MATERIALES



■ Chancadora Primaria
■ Zaranda Vibratoria Metso ST4

M1	M2	M3	M4	M5	M6	M7	M8	M9	M10
1.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0

EQUIPOS RELLENO / MANTENIMIENTO

[illegible]

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	1,096,004.9660	18.79	20,593,933.31	77.42%	77.42%	A
2	GEOTEXTIL DE 400GR/M2	m2	306,738.2235	7.67	2,352,682.17	8.84%	86.26%	B
3	CEMENTO PORTLAND TIPO I (42.5 kg)	bol	21,840.3565	29.17	637,083.20	2.39%	88.66%	B
4	TUBERIA CORRUGADA HDPE D=1000 mm	m	430.5000	1,103.60	475,099.80	1.79%	90.44%	B
5	Tubería HDPE Corrugado de 900 mm	m	511.7310	910.52	465,941.31	1.75%	92.20%	C
6	ADITIVO CONTROLADOR DE POLVO	l	35,000.0000	11.62	406,700.00	1.53%	93.73%	C
7	ACERO CORRUGADO fy = 4200 kg/cm2 GRADO 60	kg	86,119.3300	4.68	403,038.46	1.52%	95.24%	C
8	TUBERIA CORRUGADA HDPE D=630 mm	m	567.1995	564.90	320,411.00	1.20%	96.44%	C
9	CANON POR EXTRACCION CANTERA	m3	38,280.1815	3.12	119,434.17	0.45%	96.89%	C
10	MATERIALES (VARIOS)	%mt	117,655.0200	1.00	117,655.02	0.44%	97.34%	C
11	PIEDRA CHANCADA	m3	1,225.2405	83.20	101,940.01	0.38%	97.72%	C
12	ARENA GRUESA	m3	1,603.7648	62.40	100,074.92	0.38%	98.10%	C
13	MADERA TORNILLO INCLUYE CORTE PARA ENCOFRADO	p2	14,084.8800	5.72	80,565.51	0.30%	98.40%	C
14	SELLADOR ELASTICO POLIURETANO SIKAFLEX 1A	pza	930.0606	57.20	53,199.47	0.20%	98.60%	C
15	CONTENEDOR DE OFICINAS	mes	80.0000	572.00	45,760.00	0.17%	98.77%	C
16	ALAMBRE NEGRO #16	kg	4,180.55	7.90	33,026.35	0.12%	98.89%	C
17	TALLER MECANICO	mes	10.0000	3,000.00	30,000.00	0.11%	99.01%	C
18	PLASTIMENT TM-40 - PLASTIFICANTE	kg	3,494.8672	6.76	23,625.30	0.09%	99.10%	C
19	TRIPLAY DE 18 mm FENOLICO P/ENCOFRADO	pln	166.6450	140.40	23,396.96	0.09%	99.18%	C
20	TUBERIA CORRUGADA HDPE D=1200 mm	m	14.0910	1,547.69	21,808.50	0.08%	99.27%	C
21	REJILLA METALICA 2.20x1.80m	und	1.0000	21,472.80	21,472.80	0.08%	99.35%	C
22	ALMACEN PROVISIONAL	mes	10.0000	2,080.00	20,800.00	0.08%	99.43%	C
23	CARPA COMEDOR (CAMPO)	mes	10.0000	2,080.00	20,800.00	0.08%	99.50%	C
24	WATER STOP (anillos de estanqueidad); DN=900mm	und	20.0002	976.14	19,523.00	0.07%	99.58%	C
25	IMPRIMANTE ASFALTICO	kg	273.1452	58.34	15,935.29	0.06%	99.64%	C
26	DOWELL LISO Ø 3/4", L=500, c/0.50m	kg	1,759.3800	8.01	14,092.63	0.05%	99.69%	C
27	PINTURA ASFALTICA	kg	624.3320	21.94	13,697.84	0.05%	99.74%	C
28	LACA DESMOLDEADORA	gal	57.4638	207.58	11,928.34	0.04%	99.79%	C
29	Cerco perimétrico de Obra	m	100.0000	97.76	9,776.00	0.04%	99.82%	C
30	SELLO ELASTOMETRICO A BASE DE SILICONA	gal	27.2640	268.01	7,307.02	0.03%	99.85%	C
31	ALAMBRE NEGRO RECOCIDO #8	kg	883.4020	7.90	6,978.88	0.03%	99.88%	C
32	MADERA TORNILLO	p2	884.5596	5.72	5,059.68	0.02%	99.90%	C
33	CLAVOS PARA MADERA CON CABEZA DE 3"	kg	733.3090	6.03	4,421.85	0.02%	99.91%	C
34	WATER STOP (anillos de estanqueidad); DN=1200mm	und	1.9998	1,948.10	3,895.81	0.01%	99.93%	C
35	TECNOPOR DE 1/2"X4X8'	pln	185.3617	20.80	3,855.52	0.01%	99.94%	C

CURVA ABC DE SUMINISTRO DE MATERIALES Y CANTIDADES

Ítem	Descripción	Und.	Cantidad	Precio SI.	Parcial	% Parcial	% Acumulado	Clasificación
36	TRIPLAY DE 19 mm PARA ENCOFRADO	pln	23.7000	140.40	3,327.48	0.01%	99.95%	C
37	ADITIVO CURADOR DE CONCRETO	gal	229.2590	8.77	2,010.60	0.01%	99.96%	C
38	ANCLAJES	und	40.0000	46.80	1,872.00	0.01%	99.97%	C
39	ESTACAS DE MADERA	und	300.0000	5.72	1,716.00	0.01%	99.97%	C
40	PINTURA ESMALTE	gal	51.0560	33.60	1,715.48	0.01%	99.98%	C
41	MATERIAL DE RESPALDO 1" PARA JUNTAS 20 mm	m	596.4000	2.50	1,491.00	0.01%	99.99%	C
42	MATERIAL DE RESPALDO 1/2" PARA JUNTAS 10 mm	m	105.5000	10.00	1,055.00	0.00%	99.99%	C
43	DESMOLDANTE PARA MADERA	gal	7.5840	122.20	926.76	0.00%	99.99%	C
44	Geotextil no tejido 200gr/m2	m2	110.5200	4.99	551.49	0.00%	100.00%	C
45	ALAMBRE NEGRO #8	kg	47.4000	7.90	374.46	0.00%	100.00%	C
46	CLAVOS	kg	47.4000	6.03	285.82	0.00%	100.00%	C
47	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
48	YESO BOLSA 20 KG	bol	5.0000	18.72	93.60	0.00%	100.00%	C
49	SEÑALIZACION EN OBRA	mes	0.0000	8,872.80	0.00	0.00%	100.00%	C
					26,600,584.21			

CURVA ABC DE SUMINISTRO DE MATERIALES Y CANTIDADES

Clasificación	# Productos	% Productos	Costo	% Costo	% Costo Acum.
A	1	2.04%	S.20,593,933.31	77.42%	77.42%
B	3	6.12%	S.3,464,865.17	13.03%	90.44%
C	45	91.84%	S.2,541,785.73	9.56%	100.00%
	49		S.26,600,584.21		

