

Project Design Matrix (PDM)

Project Title: The Project for Improvement of Solid Waste Management in the Municipality of Panama in the Republic of Panama

Target Group : Staff of DIMAUD

Implementing Agency: DIMAUD

Project Period: Jan. 2007 - Dec. 2009

Target Area: The Municipality of Panama

Revised Date: Aug. 20, 2008

Narrative Summary		Objectively Verifiable Indicators	Means of Verification	Important Assumptions
Overall Goal Sustainable solid waste management in the municipality of Panama is achieved.		The average Revenue / Expense ratio regarding Solid Waste Management in the municipality of Panama for 5 years after the Project is over 1.0.	Economic statistic data	
Project Purpose Solid Waste services in the municipality of Panama are improved.		<ol style="list-style-type: none"> 1 The number of complaints to the 800ASEO is on a declining trend. 2 The satisfaction survey by DIMAUD shows that the level of satisfaction of the people toward the Solid Waste Services in the Municipality of Panama is improved. 3 Final disposal services are continuously provided throughout the project period. 	<p>Document of DIMAUD</p> <p>Satisfaction Survey by DIMAUD</p> <p>Document of DIMAUD</p>	Solid waste services provided by private companies are properly progressed.
Outputs		<ol style="list-style-type: none"> 1-1 Improvement tendency in the operation of waste collection services is confirmed by the operation management data. <ol style="list-style-type: none"> ① Implementation rate (Implemented /Planned Routes), ② tons /hour, ③ hours /shift 1-2 Activities contained in the manuals for satisfaction survey as well as the publicity activities of cooperating with community are implemented as the daily work. 2 Appropriate procedure of site selection for a transfer station is properly progressed. 3-1 The data of total down-time (time waiting for repair) for all collection vehicles is continuously collected and analyzed. (From baseline at Dec. 2008 to the end of the Project period, Dec. 2009) 3-2 Activities introduced by the Project are incorporated into the daily operations of collection vehicle management. 4-1 Following the developed landfill manual, proper landfill operation is carried out based on the regular measurement of bulk density and the remaining capacity of Etapa 2 landfill site. 4-2 The landfill operation is properly supervised according to the contract. 4-3 Landfill condition satisfies the requirements of national environmental standards. 5-1 5-1 Activities for the purpose of strengthening the interrelationship among departments in DIMAUD, such as seminars, workshops are planned and conducted. 5-2 Necessary database of solid waste management services that needs to be shared among departments is consolidated and properly updated. 5-3 Data on management indicators (incl. financial indicators) are consolidated and regularly reported in a documented form. 	<p>Document of DIMAUD</p> <p>Interview with CPs</p> <p>Document of DIMAUD</p> <p>Interviews with CPs</p> <p>Project progress report (Study report on possible sites)</p> <p>Interviews with CPs</p> <p>Document of DIMAUD (Maintenance Record)</p> <p>Document of DIMAUD</p> <p>Interviews with CPs</p> <p>Document of DIMAUD</p> <p>Document of DIMAUD</p> <p>Document of DIMAUD Operation report by contractor, Report by PAMA</p> <p>Document of DIMAUD</p> <p>Project progress report</p> <p>Document of DIMAUD</p> <p>Project progress report</p> <p>Document of DIMAUD (reports)</p> <p>Project progress report</p>	<p>* Natural disasters do not affect the progress of the Project.</p> <p>* The change of central and local government does not affect the Project (such that the drastic change in the regulation of solid waste management etc., will not happen.)</p>
1 Waste collection service is improved in parallel with strengthening the activities for cooperating with community				
2 Preparatory work to establish the transfer and transport system is finalized.				
3 Collection vehicle management is improved.				
4 Management of the final disposal system is strengthened.				
5 Organizational operation management is improved.				

Activities	Inputs	
<p>Waste collection service is improved in parallel with strengthening the activities for cooperating with community</p> <p>1-1 Updating the information of the waste collection and transportation</p> <p>1-2 Redesigning the routes for waste collection and transportation</p> <p>1-3 Developing the manual for waste collection and transportation</p> <p>1-4 Monitoring the operation of redesigned routes</p> <p>1-5 Collecting the primary information on activities for cooperating with community</p> <p>1-6 Publicizing the information/advertisement on the waste collection services to the community</p> <p>1-7 Conducting the satisfaction survey on the waste collection services</p> <p>1-8 Preparing the manual for satisfaction survey as well as the publicity activities of waste collection services</p> <p>1-9 Monitoring the activities for cooperation with communities</p> <p>2 Preparatory work to establish the transfer and transport system is finalized.</p> <p>2-1 Developing a conceptual design and a cost estimate</p> <p>2-2 Conducting site investigation</p> <p>3 Collection vehicle management is improved.</p> <p>3-1 Updating the information of collection vehicle management</p> <p>3-2 Planning the collection vehicle management and preparing the manual</p> <p>3-3 Improving the inventory management of spare-parts and materials for maintenance through stocktaking</p> <p>3-4 Improving the procurement management of spare-parts and materials for maintenance through establishing an appropriate order system</p> <p>3-5 Studying/discussing the technical key points for placing the maintenance contract with private companies.</p> <p>3-6 Studying/discussing the workflow of signment procedure (incl. demarcation of operation, preparation of checklists, etc.)</p> <p>3-7 Monitoring the activities 3-2 to 3-6.</p>	<p>1. Japanese side</p> <p>(1) Dispatch of Experts Chief advisor: Waste management / Landfill management Experts: Waste Collection, Transfer and Transport system, Vehicle Management, Final Disposal, Organization, Finances, Community Relations, others</p> <p>(2) Provision of machinery and equipment Equipments for data collection and analysis</p> <p>(3) Training Expected to be conducted in Japan and/or Latin America</p> <p>2. Panamanian side</p> <p>(1) Assignment of counterparts and administrative personnel</p> <p>(2) Office space with furniture for the experts</p> <p>(3) Room(s) for training as required</p> <p>(4) Meeting room(s) as required</p> <p>(5) Transport for the experts</p> <p>(6) Equipment and personnel necessary for establishing an information and communication system</p> <p>(7) Procurement of sufficient vehicles for the Improvement of Collection Service</p> <p>(8) Other necessary land, facilities and materials for the implementation of the Project</p>	<p>The landfill expansion is constructed as scheduled according to the contract with private enterprises.</p> <p>Personnel assigned as counterparts remain in their institutions throughout the Project period.</p>

<p>4 Management of the final disposal system is strengthened</p> <p>4-1 Updating the information on the final disposal system.</p> <p>4-2 Upgrading the daily landfill operations (Etapa 2)</p> <p>4-3 Developing the manual for supervision and operation of the landfill (Epata2)</p> <p>4-4 Monitoring the landfill operations (Etapa 2)</p> <p>4-5 Preparation for bidding for landfill expansion (Etapa 3)</p> <p>4-6 Bidding & Evaluation for landfill (Etapa3)</p> <p>4-7 Carefully examining the management plan of final disposals prepared by the Contractor</p> <p>4-8 Supervising the landfill operation according to the contract made between DIMAUD and contractor.</p> <p>5 Organizational operation management is improved.</p> <p>5-1 Discussing the mission /vision of the DIMAUD</p> <p>5-2 Reviewing the organizational structure</p> <p>5-3 Increasing the awareness and promoting the interrelationship among departments</p> <p>5-4 Reviewing the current situation of information management</p> <p>5-5 Developing a plan to improve the information management</p> <p>5-6 Creating a mechanism of information sharing</p> <p>5-7 Constructing a mandatory database</p> <p>5-8 Setting management indicators based on the activities from 5-4 ~5-7</p> <p>5-9 Preparing the monthly summary report on management indicators (incl. financial indicators)</p>	<p>Pre-Conditions</p>
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Dispatch Records of Japanese Experts (8 persons in total)

#	Field	Name	Assignment Period	m/m	Responsible Outputs and/or Activities of PDM
1	Chief Adviser/ Solid Waste Management/Environmental Considerations/Organization	Ikuo MORI	2007.01.13-2007.02.05 (24)	0.8	Activities ALL and 5-1
			2007.02.24-2007.03.16 (21)	0.7	
			2007.05.21-2007.09.10 (113)	3.77	
			2007.09.24-2007.12.17 (85)	2.83	
			2008.01.11-2008.03.04 (54)	1.8	
			2008.05.07-2008.07.07 (62)	2.07	
			Domestic working period		
			2007.01.05-2007.01.12 (8)	0.27	
			2007.01.19-2007.03.11 (52)	1.67	
			2007.07.17-2007.09.03 (49)	1.63	
2	Transfer Transport /Final Disposal Management	Hiroshi KATO	2007.10.24-2007.11.13 (21)	0.7	2-1,2-2,4-1,4-2,4-3,4-4,4-5,4-6
			2008.01.08-2008.02.16 (40)	1.33	
			2008.04.18-2008.05.11 (24)	0.8	
			Domestic working period		
			2007.01.05-2007.01.12 (7)	0.23	
			2007.02.10-2007.03.17 (40)	1.33	
			2007.07.01-2007.07.14 (14)	0.47	
			2007.10.15-2007.12.10 (57)	1.9	
			2008.01.08-2008.03.02 (55)	1.83	
			2008.06.01-2008.06.30 (30)	1.0	
Domestic working period					
2007.09.29-2007.10.12 (14)	0.47				
3	Collection/Transport	Ximena ALEGRIA	2007.01.05-2007.01.12 (7)	0.23	1-1,1-2,1-3,1-4
			2007.02.10-2007.03.17 (40)	1.33	
			2007.07.01-2007.07.14 (14)	0.47	
			2007.10.15-2007.12.10 (57)	1.9	
			2008.01.08-2008.03.02 (55)	1.83	
			2008.06.01-2008.06.30 (30)	1.0	
			Domestic working period		
			2007.09.29-2007.10.12 (14)	0.47	

#	Field	Name	Assignment Period	m/m	Responsible Outputs and/or Activities of PDM
4	Vehicle Management	Masanori TAKEISHI	2007.07.25-2007.09.07 (45)	1.5	3-1,3-2,3-3,3-4,3-5,3-6
			2008.02.09-2008.03.03 (24)	0.8	
			2008.05.03-2008.06.01 (30)	1.0	
5	Management of the Landfill Operation	Kazuhiro AKAISHI	2007.07.17-2007.08.30 (45)	1.5	4-1,4-2,4-3,4-4,4-5,4-6
			2007.10.10-2007.11.23 (45)	1.5	
6	Training/Community Relations	Yuko AOKI	2007.02.11-2007.03.13 (30)	1.0	1
			2007.06.07-2007.07.15 (39)	1.3	
			2007.10.24-2007.11.30 (38)	1.27	
			2008.01.12-2008.02.18 (38)	1.27	
			2008.04.24-2008.06.22 (60)	2.0	
7	Finance	Masaru OBARA	2007.01.27-2007.03.14 (47)	1.57	5
8	Information Management	Kunito ISHIBASHI	2007.10.07-2007.12.07 (62)	2.07	5-2
			2008.01.20-2008.02.16(28)	0.93	
			2008.05.17-2008.06.15 (30)	1.0	

Record of Counterparts Trained in Japan (3 persons in total)

#	Name	Title/Organization at the time of training	Title of Training Course	Training Period
1.	Lucia Sánchez	Planning, DIMAUD	Waste Management Techniques for Central American Countries	07.08.07-22.09.07
2.	Lucas Gill	Planning, DIMAUD		
3.	Michael Guzmán	Public opinion survey, DIMAUD	Waste control to promote formation of a recycle oriented society for Central and South American Countries	30.06.08 – 08.08.08

Record of Counterparts Trained in the Third Countries (3 persons in total)

#	Name	Title/Organization at the time of training	Title of Training Course	Training Period
1.	Berta de Velásquez	Monitoring, DIMAUD	Solid Waste Management in the Metropolitan Area, Chile Solid Waste Management in Santo Domingo City, Dominican Republic	30.09.07 – 12.10.07 29.10.07 – 02.11.07
2.	Pablo Jaen	Marketing		
3.	Ricardo Perez	Marketing		

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List of Equipment provided by the Japanese side

Utilization: A=Fully B=Moderately, C=Partly, D= Not at all
 Management: A=Appropriate B=Fair C=Inappropriate

JFY	No.	Item and Specialization	Manufacturer	Qn	Unit Price	Total Price	Model/Management number	Location	Responsible Organization	Date of Delivery	Utilization	Management	# of disposed eqpt	# of available eqpt	Relevant Activity of PDM
2006	1	Copy machine	Cannon, IR2870	1	7126.56\$	7,127	SLG11961	Project office	Planning	Jan. 2007	A	A	0	1	ALL
2006	2	Printer	HP Color Laserjet3800dn	1	1318.5\$	1,318.50	CNTCHZ6906	Project office	Planning	Mar. 2007	A	A	0	1	ALL
2006	3	Desktop PC	HP Compaq dc7700 SFF PC	1	1455.42\$	1,455.42	TJG2R-F2FPF-R8GCH-T36FH-FDWT3	Project office	Planning	Mar. 2007	A	A	0	1	ALL
2006	4	Desktop PC	HP Compaq dc7700 SFF PC	1	1455.42\$	1,455.42	JXJK4-XTHPM-TVKHW-WYPX8-73WTY	DIMAUD	Planning	Mar. 2007	A	A	0	1	ALL
2006	5	Software	Microsoft office	1	398.95\$	398.95	CFQWQ-3F6JB-M8XD9-BGWBR-3XH4D	Project office	Planning	Mar. 2007	A	A	0	1	ALL
2006	6	Software	Microsoft office	1	398.95\$	398.95	MBJ8K-KKMTF-YX8QV-8RCVD-2Q8YQ	DIMAUD	Planning	Mar. 2007	A	A	0	1	ALL
2006	7	Software	Norton internet security	1	73.47\$	73.47	JDDHF-GBTGH-W4G9P-4936K-9DQM3	Project office	Planning	Mar. 2007	A	A	0	1	ALL
2006	8	Software	Norton internet security	1	73.47\$	73.47	JKTB2-WV4D3-9WBMF-78TB2-YQ2MM	DIMAUD	Planning	Mar. 2007	A	A	0	1	ALL
2006	9	Fax machine	Brother, B25-MFC640CW	1	294\$	294.00	U61403D6F531380	Project office	Planning	Mar. 2007	A	A	0	1	ALL
2006	10	Projector	SONY	1	866.25\$	866.25	VPL-ES3WT SYQ	Project office	Planning	Oct. 2007	A	A	0	1	ALL
2007	11	GIS software	ArcGIS 9.2	1	1,890\$	1,890.00	P/N: 108098	Project office	Planning	Oct. 2007	A	A	0	1	ALL
						13,460.99									
						1,890.00									
						15,350.99									

Local cost expended by the Japanese side

Unit=Yen

	Major Budget Item	JFY2006 (Jan.-Mar.2007)	JFY2007(Apr.2007 - Mar.2008)	JFY2008 (April-June)	Total
1	Employment Cost (Interpreter, Typist, Assistant Engineer)	5,111,091	4,410,041	13,100	9,534,232
2	consumable goods	153,193	21,789	115	175,097
3	travel and transport		2,430,986	0	2,430,986
4	communication	81,717	114,732	0	196,449
5	publishing materials		1,527,865	0	1,527,865
6	rental	1,264,500	6,999,576	13,500	8,277,576
7	office maintenance	108,445		0	108,445
8	others	61,520		0	61,520
	Total in Japanese Yen	6,780,466	15,504,989	26,715	22,312,170
	In US\$	56,669.17	130,359.75	265.06	187,293.98
	(FX rate)	119.65	118.94	100.79	
	As of	05/01/2007	02/04/2007	01/04/2008	

List of Counterparts

No.	Name	Title/Organization	Responsible Output and/or Activity of PDM(3)
1	Juan Carlos Navarro	Mayor/Municipality of Panama	Project Director
2	Abraham Goti	Director, DIMAUD	Project Manager
3	Rafael Reyes	Sub-director, DIMAUD	Sub-project Manager
4	René Paniza	Advisor to Mayor	JCC Member
5	Berta de Velásquez	Chief, Vehicle monitoring, DIMAUD	1.2.3.4.5
6	Lucila Sánchez	Coordinator, Planning, DIMAUD	1-1,1-2,1-3,1-4
7	Francisco McKay	Planning, DIMAUD	1-1,1-2,1-3,1-4
8	Lucas Gill	Planning, DIMAUD	1-1,1-2,1-3,1-4
9	Michael Guzmán	Questionnaire survey, DIMAUD	*1-interview survey
10	Lorenzo Tejeira	Planning, DIMAUD	*1-community relations
11	Gisela Rodríguez	Chief, Public Relations, DIMAUD	*1- public relations
12	David Lindo	Director, Communication Dept., Municipality	*1-public relations
13	Leonardo Castro	Chief, Zone B Operation Chief, DIMAUD	1-1,1-2,1-3,1-4
14	Luis Wever	Chief, Zone A Operation Chief, DIMAUD	1-1,1-2,1-3,1-4
15	Wilma Anzola	Customer service, Línea 800, Municipality	*1-community relations
16	Pablo Jáen	Chief, Commercial Dept., DIMAUD	1-1,1-2,1-3,1-4
17	Dario Yangüez	Operation Dept., DIMAUD	1-1,1-2,1-3,1-4
18	Dania Solís	Planning, DIMAUD	1-1,1-2,1-3,1-4
19	José Pinzón	Planning, DIMAUD	1-1,1-2,1-3,1-4
20	Reynaldo Worrell	Cadastre, DIMAUD	1-1,1-2,1-3,1-4
21	José Luis Contreras	Cadastre, DIMAUD	1-1,1-2,1-3,1-4
22	Bricelda González	Planning, DIMAUD	1-1,1-2,1-3,1-4
23	Marina Tamayo	Community Relations, DIMAUD	*1-interview survey
24	Elizabeth Asprilla	Community Relations, DIMAUD	*1-interview survey
25	Karen de Alfaro	Community Relations, DIMAUD	*1-interview survey
26	Isis O'Brien	Vehicle monitoring, DIMAUD	1-1,1-2,1-3,1-4
27	Elena Camaño	Public Relations, DIMAUD	*1- public relations
28	Adolfo Alvarado	Planning, DIMAUD	1-1,1-2,1-3,1-4

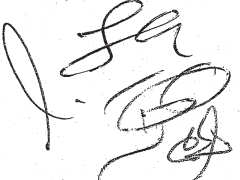
List of Counterparts

No.	Name	Title/Organization	Responsible Output and/or Activity of PDM(3)
29	Adolfo Mora	Planning, DIMAUD	1-1,1-2,1-3,1-4
30	Diógenes Rosas	Planning, DIMAUD	1-1,1-2,1-3,1-4
31	Luis C. Duarte	Planning, DIMAUD	1-1,1-2,1-3,1-4
32	Omar Fernández	Planning, DIMAUD	1-1,1-2,1-3,1-4
33	José Mendieta	Planning, DIMAUD	1-1,1-2,1-3,1-4
34	Jaime Alba	Planning, DIMAUD	1-1,1-2,1-3,1-4
35	Rodrigo Moreno	Planning, DIMAUD	1-1,1-2,1-3,1-4
36	Octavio Herman	Planning, DIMAUD	1-1,1-2,1-3,1-4
37	Emilio Caballero	Planning, DIMAUD	1-1,1-2,1-3,1-4
38	Dionis Vergara	Planning, DIMAUD	1-1,1-2,1-3,1-4
39	Catherine O'Brien	Planning, DIMAUD	1-1,1-2,1-3,1-4
40	Enoch Menacho	Zone B Operation, DIMAUD	1-1,1-2,1-3,1-4
41	Santiago Kellys	Zone A Operation, DIMAUD	1-1,1-2,1-3,1-4
42	Zocimo Rodríguez	Zone A Operation, DIMAUD	1-1,1-2,1-3,1-4
43	Anibal Bermudez	Zone A Operation, DIMAUD	1-1,1-2,1-3,1-4
44	Santos Muñoz	Zone A Operation, DIMAUD	1-1,1-2,1-3,1-4
45	José Quintero	Zone B Operation, DIMAUD	1-1,1-2,1-3,1-4
46	Alonso Filós	Chief, Technical Services, DIMAUD	4, 4-1,4-2,4-3,4-4,4-5,4-6,4-7,4-8,4-9,4-10
47	Mauricio Alvarenga	Transfer and Transport System, DIMAUD	2-1,2-2,3,2-4,2-5,2-6
48	Alcibiades Gómez	Planning, DIMAUD	1-1,1-2,1-3,1-4
49	Francisco Tuñón	Chief, Maintenance, DIMAUD	3-1,3-2,3-3,3-4,3-5,3-6
50	Humberto Ávila	Maintenance, DIMAUD	3-1,3-2,3-3,3-4,3-5,3-6
51	Aparicio Perez	Chief, Administración Dept, DIMAUD	3-1,3-2,3-3,3-4,3-5,3-6
52	Magdalena Montalvan	Chief, Ware-house, DIMAUD	3-1,3-2,3-3,3-4,3-5,3-6
53	Clara Vargas	Coordinator, Cerro Patacon, DIMAUD	4-5,4-6,4-7,4-8,4-9,4-10
54	Pablo Lewis	Technical Services, DIMAUD	4-1,4-2,4-3,4-4,4-5,4-6,4-7,4-8,4-9,4-10
55	Pío Atencio	Chief, Information, DIMAUD	5, 5-2

Project Management Cost expensed by the Panamanian Side

Unit = USD

No.	Major Budget Item	Amount
1	Car rental for data acquisition, design and monitoring of the collection route optimization	90,460.21
2	Equipment and softwares for the information management	41,993.05
3	Office materials	1,764.00
4	Publicity materials	4,788.53
5	Personnel cost for the project	13,200.00
6	Fuel	8195.83
Total		160,401.62


 hr

List of Collection Vehicles

No	Reg.	Type	Yd3	m3	Location	Installation date
1	3-8-931	Compactadores	25	19	PACIFICO	10 Jan 2008
2	3-8-932	Compactadores	25	19	PACIFICO	10 Jan 2008
3	3-8-933	Compactadores	20	15	PACIFICO	10 Jan 2008
4	3-8-934	Compactadores	20	15	PACIFICO	10 Jan 2008
5	3-8-935	Compactadores	20	15	PACIFICO	10 Jan 2008
6	3-8-942	Compactadores	25	19	PACIFICO	5 Jan 2008
7	3-8-945	Compactadores	25	19	PACIFICO	5 Jan 2008
8	3-8-949	Compactadores	17	13	PACIFICO	5 Jan 2008
9	3-8-950	Compactadores	17	13	PACIFICO	5 Jan 2008
10	3-8-951	Compactadores	35	27	PACIFICO	18 Jan 2008
11	3-8-952	Compactadores	35	27	PACIFICO	18 Jan 2008
12	3-8-953	Compactadores	32	24	PACIFICO	20 Mar 2008
13	3-8-954	Compactadores	16	12	PACIFICO	24 Mar 2008
14	3-8-955	Compactadores	20	15	PACIFICO	24 Mar 2008
15	3-8-957	Compactadores	20	15	PACIFICO	24 Mar 2008
16	3-8-958	Compactadores	20	15	PACIFICO	24 Mar 2008
17	3-8-959	Compactadores	32	24	PACIFICO	24 Mar 2008
18	3-8-972	Compactadores	16	12	PACIFICO	20 Mar 2008
19	4-8-936	Compactadores	25	19	CARRASQUILLA	24 Mar 2008
20	4-8-937	Compactadores	25	19	CARRASQUILLA	10 Jan 2008
21	4-8-938	Compactadores	25	19	CARRASQUILLA	10 Jan 2008
22	4-8-939	Compactadores	20	15	CARRASQUILLA	10 Jan 2008
23	4-8-940	Compactadores	20	15	CARRASQUILLA	10 Jan 2008
24	4-8-941	Compactadores	25	19	CARRASQUILLA	10 Jan 2008
25	4-8-943	Compactadores	25	19	CARRASQUILLA	5 Jan 2008
26	4-8-944	Compactadores	25	19	CARRASQUILLA	5 Jan 2008
27	4-8-946	Compactadores	17	13	CARRASQUILLA	5 Jan 2008
28	4-8-947	Compactadores	17	13	CARRASQUILLA	5 Jan 2008
29	4-8-948	Compactadores	17	13	CARRASQUILLA	5 Jan 2008
30	4-8-956	Compactadores	20	15	CARRASQUILLA	5 Jan 2008
31	4-8-960	Compactadores	32	24	CARRASQUILLA	25 Mar 2008
32	4-8-961	Compactadores	32	24	CARRASQUILLA	20 Mar 2008
33	4-8-962	Compactadores	32	24	CARRASQUILLA	20 Mar 2008
34	4-8-963	Compactadores	20	15	CARRASQUILLA	20 Mar 2008
35	4-8-964	Compactadores	20	15	CARRASQUILLA	25 Mar 2008
36	4-8-965	Compactadores	20	15	CARRASQUILLA	25 Mar 2008
37	4-8-966	Compactadores	20	15	CARRASQUILLA	24 Mar 2008
38	4-8-967	Compactadores	20	15	CARRASQUILLA	24 Mar 2008
39	4-8-968	Compactadores	20	15	CARRASQUILLA	25 Mar 2008

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List of Collection Vehicles

No	Reg.	Type	Yd3	m3	Location	Installation date
40	4-8-969	Compactadores	16	12	CARRASQUILLA	25 Mar 2008
41	4-8-970	Compactadores	16	12	CARRASQUILLA	24 Mar 2008
42	4-8-971	Compactadores	16	12	CARRASQUILLA	24 Mar 2008
43	4-8-973	Compactadores	20	15	CARRASQUILLA	24 Mar 2008
44	4-8-974	Compactadores	20	15	CARRASQUILLA	25 Mar 2008
45	4-8-975	Compactadores	20	15	CARRASQUILLA	24 Mar 2008
46	4-8-976	Compactadores	20	15	CARRASQUILLA	25 Mar 2008
47	4-8-977	Compactadores	20	15	CARRASQUILLA	25 Mar 2008
48	4-8-978	Compactadores	30	23	CARRASQUILLA	20 Jul 2008
49	4-8-979	Compactadores	30	23	CARRASQUILLA	20 Jul 2008
50	4-8-980	Compactadores	30	23	CARRASQUILLA	20 Jul 2008
51	4-8-981	Compactadores	30	23	CARRASQUILLA	20 Jul 2008
52	3-8-982	Compactadores	30	23	CARRASQUILLA	20 Jul 2008
53	2746	Volquetes	16	12	PACIFICO	24 Mar 2008
54	2747	Volquetes	16	12	PACIFICO	24 Mar 2008
55	2751	Volquetes	16	12	PACIFICO	24 Mar 2008
56	1748	Volquetes	16	12	CARRASQUILLA	24 Mar 2008
57	1749	Volquetes	16	12	CARRASQUILLA	24 Mar 2008
58	1750	Volquetes	16	12	CARRASQUILLA	24 Mar 2008
59	47811	Roll on - off	-	-	CARRASQUILLA	24 Mar 2008
60	37812	Roll on - off	-	-	PACIFICO	20 Jul 2008

