

Demonstration and Evaluation of U.S. Postal Service Electric Carrier Route Vehicles

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I. EXECUTIVE SUMMARY

In December 1998 the United States Postal Service (USPS) issued Specification USPS-E-PURC for the procurement of six Pilot Model Electric Carrier Route Vehicles (ECRVs) “for examination and testing...to prove that the production methods will produce vehicles that meet the requirements specified herein”. A year later the USPS announced that Ford Motor Company had been selected to build the first 500 units of a demonstration program aimed at a nationwide deployment of ECRVs. Subsequently, in April 2000, the USPS and South Coast Air Quality Management District (SCAQMD) selected Southern California Edison (SCE) to perform Baseline Performance and Accelerated Reliability Tests at the Electric Vehicle Technical Center (EVTC) in Pomona, California, with oversight of the Department of Energy (DOE) Field Operations Program.

During initial discussions with the USPS, SCAQMD, DOE and Ford Motor Co., SCE proposed the following project approach:

- Understand USPS Mission Requirements
- Review USPS ECRV Characteristics
- Review Existing Field Operations Test Procedures
- Confirm Relevant Existing Procedures
- Propose USPS Specific Procedures
- Finalize Alternate Procedures
- Conduct Tests
- Prepare Test Reports

The procedures included in the test manuals describe the testing methods and evaluation criteria used at the EV Technical Center to evaluate the USPS vehicles. The Purpose section gives an outline of tests performed and the reasons or justification for the procedures. The Test Instrumentation section is a listing of the required equipment for each procedure. The Test Procedures give detailed instructions on how to perform the tests.

Baseline performance testing determined that the vehicles met all the USPS requirements tested except range on a dynamometer with the UDDS driving cycle (only the UDS/HWFET cycle could be tested). During Accelerated Reliability testing, the long-term suitability of ECRVs for USPS was assessed by driving as many miles as reasonably possible with two vehicles during the test period. From August 2000 to December 2001, a combined total of 45,813 miles had been logged with the two vehicles. Vehicle operation, efficiency, and reliability were carefully documented by these tests. One vehicle recorded 97.5% availability during the period. The other achieved 98.6% availability. Some concerns were raised regarding the management (battery charging and maintenance software) of the traction batteries and its impact on battery life and vehicle efficiency (AC kWh/mile).

II. SCOPE OF WORK

The tasks to be undertaken by SCE for this project under AQMD contract number 00192 were:

- Task 1. The evaluation of the Field Operations Program's Baseline Performance testing procedures and creation of a modified version of the procedures specifically for U.S. Postal Service light-duty mail-delivery electric vehicle testing.
- Task 2. The evaluation of the Field Operations Program's Accelerated Reliability testing procedures and creation of a modified version of the procedures specifically for U.S. Postal Service light-duty mail-delivery electric vehicle testing.
- Task 3. The Baseline Performance testing of a minimum of two light-duty mail-delivery electric vehicles.
- Task 4. The Accelerated Reliability testing of two light-duty mail-delivery electric vehicles.

Task 1. Baseline Performance Test Procedures Evaluation and Modification

This task required evaluation of the established FOP's *Baseline Performance* test procedures for applicability and creating a modified version of the test procedures specifically for testing the USPS's new light-duty mail-delivery EVs. These modifications were required to accurately test the USPS's new light-duty mail-delivery EVs to conditions that simulate the probable service duty cycles of the vehicles.

Task 2. Accelerated Reliability Test Procedures Evaluation and Modification

This task required evaluation of the established FOP's *Accelerated Reliability* test procedures for applicability and creating a modified version of the test procedures specifically for testing the USPS's new light-duty mail-delivery EVs. These modifications were required to accurately test the USPS's new light-duty mail-delivery EVs to conditions that simulate the probable service duty cycles of the vehicles.

Task 3. Baseline Performance Testing

A minimum of two vehicles were to be tested to the *Baseline Performance* test procedures as modified in Task 1. However, in the event that the testing results for the two vehicles deviated significantly, it was possible that additional *Baseline Performance* tests would be conducted on additional USPS light-duty mail-delivery EVs.

Task 4. Accelerated Reliability Testing

Two vehicles were to be tested to the *Accelerated Performance* test procedures as modified in Task 2. SCE was to perform Task 4 testing to the test methods identified by Task 2. The test period for Task 4 was to be one year. The vehicle-testing schedule was dependent on the delivery of vehicles from the USPS. SCE had to provide liability and collision insurance for testing activities. SCE proposed to perform this task at the EV Technical Center in Pomona.

III. FINDINGS AND SUMMARY OF TEST RESULTS

3.1 Baseline Performance Test Procedures

The tests were designed to verify that the vehicles conform to the performance related portions of Specification USPS-E-PURC. When combined with an inspection performed by USPS engineering personnel the tests confirmed that the vehicles to be supplied by Ford Motor Co. would be suitable for the 500 vehicle demonstration program. Table 3-1 summarizes the procedures developed for the test program. Figure 3-1 shows the various steps involved with a performance characterization test.

Table 3-1 USPS EV Baseline Performance Tests

TC-BT-01	Acceleration, Maximum Speed, Braking
TC-BT-02	Gradeability
TC-BT-03	Road Handling
TC-BT-04	Water Test
TC-BT-05	Dynamometer Test
TC-BT-06	Road Range
TC-BT-07	Battery Charging
TC-BT-08	Sound Levels
TC-BT-09	EMF Levels
TC-BT-10	Compatibility with Electronic Devices

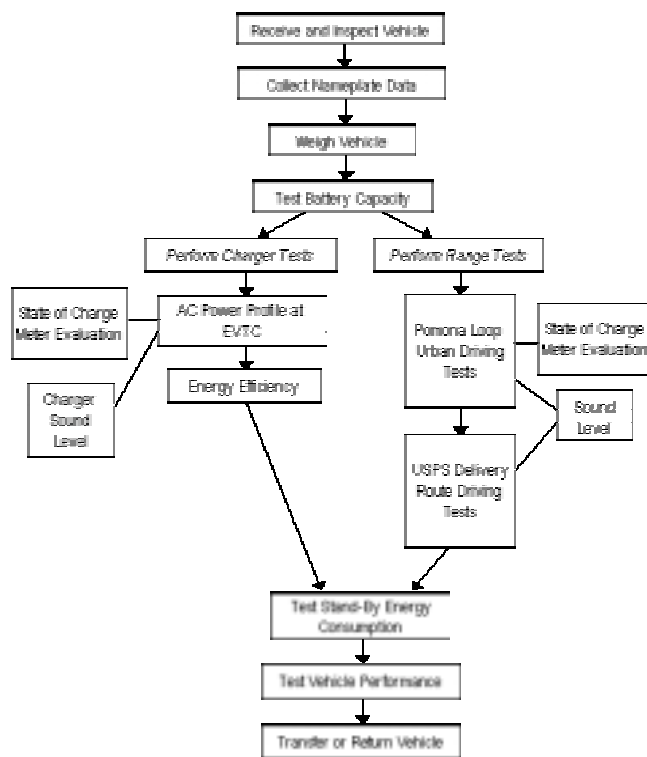


Figure 3-1 EV Test Procedure Flow Diagram (Simplified)

Dynamometer testing (TC-BT-05) included range determination, energy usage and gradeability limit. Road Range testing (TC-BT-06) was performed in the urban Pomona Loop shown in Figure 3-2 and the USPS Delivery Route shown in Figure 3-3.

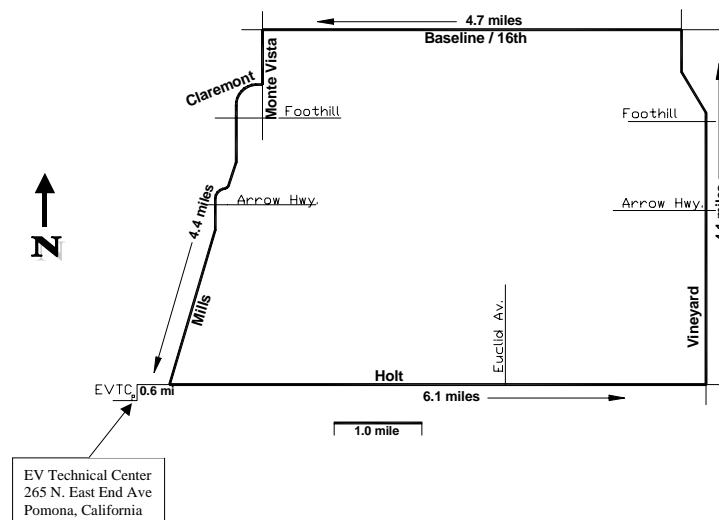


Figure 3-2 Pomona Loop

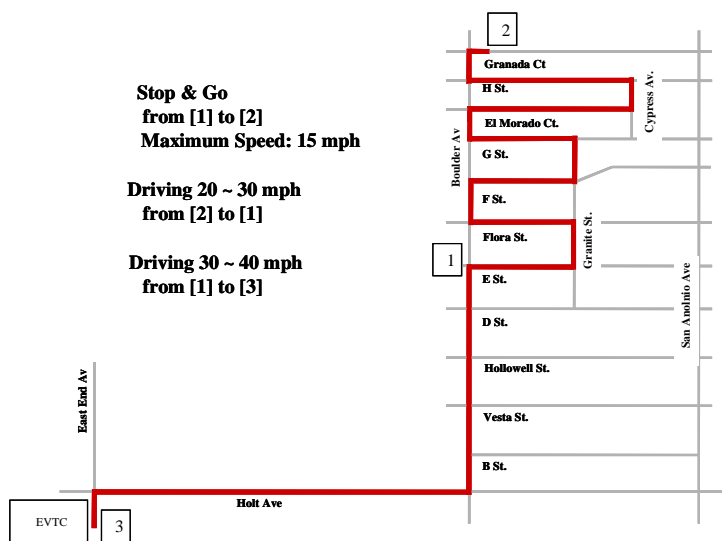


Figure 3-3 USPS Delivery Route

3.2 Accelerated Reliability Test Procedures

Long-term suitability for the USPS mail delivery mission will be assessed by logging as many miles as reasonably possible with two vehicles over a period of one year. A goal of 25,000 miles per vehicle has been set. The detailed and accurate documentation of the vehicle availability, operation and system’s reliability will be covered by these tests. Table 3-2 summarizes the procedures developed for the program.

Table 3-2 USPS EV Accelerated Reliability Tests

TC-AR-01	Driving
TC-AR-02	Charging
TC-AR-03	Distance and Miles per Charge
TC-AR-04	Charging Energy and EV Efficiency
TC-AR-05	Vehicle Availability and Downtime
TC-AR-06	Vehicle Reliability
TC-AR-07	Vehicle Benchmarking
TC-AR-08	Operation and Incident Log
TC-AR-09	Operating Cost Analysis

3.3 Baseline Test Results

3.3.1 Acceleration, Maximum Speed and Braking

USPS vehicles No. 3 and No. 4 were tested at the Los Angeles River bed, which provided a smooth flat location for the various performance tests. As can be seen in Figure 3-4, the LA River Bed provides ideal conditions for this type of testing.



Figure 3-4 Acceleration, Maximum Speed, and Braking Test Site

The test day was overcast with an average ambient temperature of 71° F and wind gusts of approximately 5 mph.

A Vericom VC2000PC Performance Computer was used to measure the acceleration and braking performance of the vehicles. Runs were conducted at various states of charge and repeated twice in opposite directions to average the effects of wind and grade. Table 3-3, shows the acceleration, maximum speed and braking results for vehicle three and vehicle four, which were loaded at maximum payload.

Table 3-3 Performance Testing Data¹

	USPS Minimum Requirements	100% SOC		80% SOC		60% SOC		40% SOC		20% SOC	
		Veh 3	Veh 4	Veh 3	Veh 4	Veh 3	Veh 4	Veh 3	Veh 4	Veh 3	Veh 4
0-15 mph (s)	5.00	2.89	2.92	2.89	*	2.88	2.85	2.90	2.90	2.91	2.93
0-50 mph (s)	22.00	17.35	17.68	18.24	*	16.88	16.11	18.04	16.94	17.87	17.60
15-35 mph (s)		6.04	5.93	5.95	*	6.67	6.14	6.48	5.80	*	5.86
25-55 mph (s)		17.20	15.98	17.17	*	18.48	16.23	18.72	17.32	*	17.05
Maximum Speed (mph)	60	61.5	65							62	63
					50% SOC						
					Veh 3	Veh 4					
Braking (20-0 mph) (ft.)	25.0				23.7	22.1					

¹ Average values recorded on 9-22-00 (average ambient temperature: 71°F). (1250 lb. Payload)

* Not tested because vehicle SOC dropped below test requirement.

Figure 3-5 shows the speed and distance data recorded by the Vericom VC2000PC with vehicle No. 3.

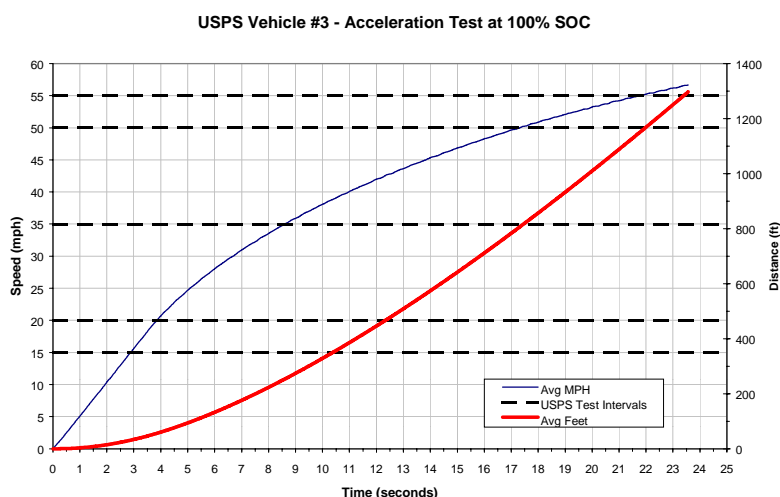


Figure 3-5 Speed and Distance Profiles for Vehicle No. 3

3.3.2 Gradeability Tests

Gradeability tests were performed on a four-wheel dynamometer at a Mercedes Benz test facility. The testing took approximately one week and included gradeability at speed tests and dynamometer road load simulation tests.

The gradeability limit of both vehicles were determined by means of producing an actual grade on a flat bed tow truck. Both vehicles were capable of starting and ascending a 25% grade when loaded with maximum payload at 50% SOC. Two means of measurement were used for verification of results; taking measurements from a level reference and using an angle protractor with an accuracy of $\pm 1^\circ$ (see Figure 3-6).



Figure 3-6 Gradeability Setup and Equipment at 25% Grade

3.3.3 Road Handling Test

The road handling test documents the handling and maneuverability of the USPS EV at different States of Charge (SOC) over an SCCA-style Road Handling Course similar to the one shown in Figure 3-7. For comparison purposes, a gasoline USPS Long Life Vehicle (LLV) was tested alongside the EV version.

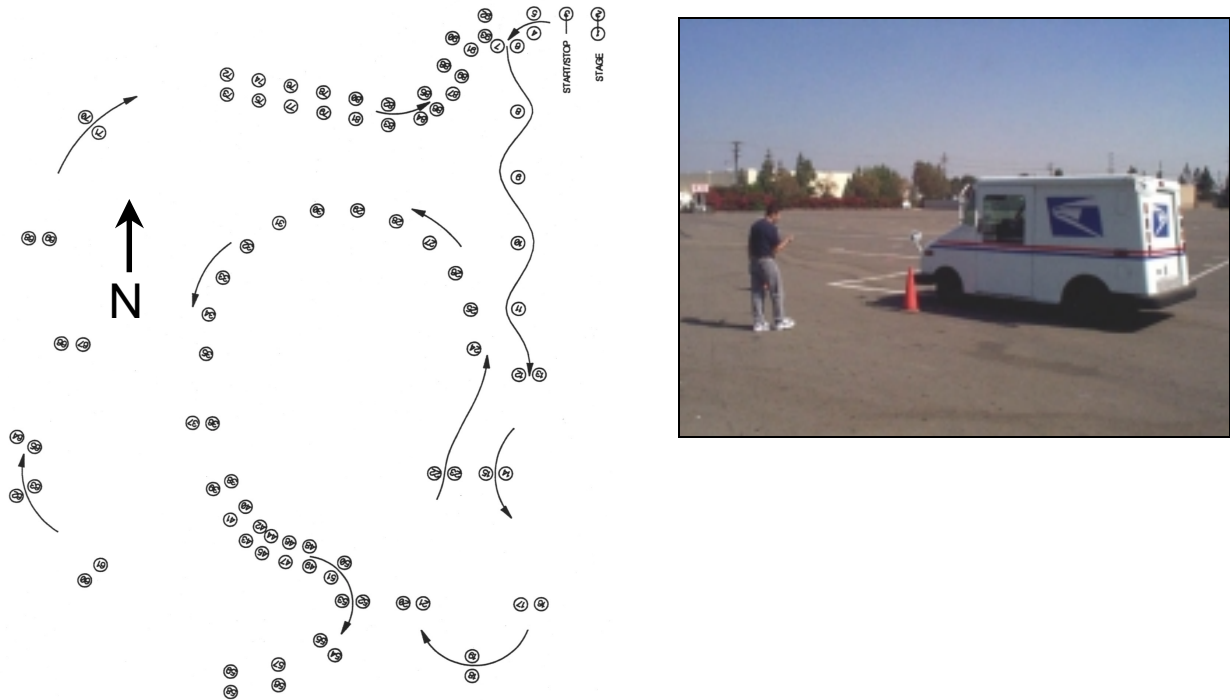


Figure 3-7 Road Handling Course Layout

Table 3-5 shows the results obtained for all vehicles. The times for the EV and gasoline vehicles were similar.

Table 3-5 Road Handling Test Results

	90% SOC	50% SOC	20% SOC
EV #3 (max payload)	74.0 s	72.5 s	69.8 s
EV #4 (min payload)	56.5 s	56.3 s	55.9 s
Gas (max payload)	69.3 s		
Gas (min payload)	56.0 s		

Results are average of two test runs. Maximum payload 1,250 lb; Minimum payload 165 lb

3.3.4 Water Test

The purpose of this test was to determine the amount of leakage current from battery to chassis and from chassis to ground when the vehicle was driven through a standing water area. To reproduce the effects of splashing water, a sprinkler setup with four sprinkler heads was used (Figure 3-8). Within five minutes of soaking the vehicles were put on charge and checked for battery leakage current from battery to chassis and from chassis to ground.



Figure 3-8 Water Test Setup

While testing these vehicles, a voltage spike was observed every four to five seconds between the battery positive or negative and the vehicle's chassis while charging. Ford engineers explained that a self-test is incorporated into the vehicle's charging system. This self-test never allows the vehicle to operate with leakage current over 3 milliamps. The leakage test itself produced a maximum leakage current reading of 1.8 Measurement Indication Units (MIU - 0.5 MIU RMS is the maximum recommended by UL) during the voltage spike between the battery and the chassis.

3.3.5 Dynamometer Testing

Dynamometer testing was performed at the Mercedes Emissions Testing Facility in Long Beach, California. A four-wheel dynamometer was necessary in order for the vehicle's anti-lock braking system (ABS) to operate properly (Figure 3-9). Without front wheel rotation, the regenerative braking does not function due to the ABS sensing a loss of traction.



Figure 3-9 Four-Wheel 48-Inch Roller Dynamometer

Gradeability test results are shown in Table 3-6A, and an example of a drive profile is provided in Figure 3-10.

Table 3-6B provides the UDS/HWFET range tests results. USPS required 50 miles on the UDDS cycle but this cycle was not available on the Mercedes dynamometer.

Table 3-6A Gradeability Test Results

Test	USPS Requirements	Vehicle #3	Vehicle #4
Speed at 2.5% Grade	N/A	58.1 mph	58.5 mph
Speed at 3% Grade	55 mph	56.2 mph	56.3 mph
Speed at 6% Grade	45 mph	47.7 mph	47.1 mph
Speed at 20% Grade	10 mph	20.9 mph	22.3 mph
Gradeability Limit	25.0%	26.2%	26.6%

Table 3-6B Dynamometer Combined UDS/HWFET Range Test Results

Vehicle No.	Date	Start			End			DC Ah Out	DC kWh Out	Dyno Miles
		Pack Voltage	Pack Temp °F	Amb Temp °F	Pack Voltage	Pack Temp °F	Amb Temp °F			
3	11-13-00	328.0	75.2	73.4	306.7	86.0	77.0	52.7	16.2	31.1
3	11-14-00	332.9	75.2	71.6	308.3	84.2	77.0	52.4	16.2	31.5
4	11-08-00	332.6	82.4	73.4	310.6	95.0	77.0	52.1	16.2	31.3
4	11-14-00	330.8	69.8	71.6	310.2	82.4	77.0	50.8	15.7	30.6

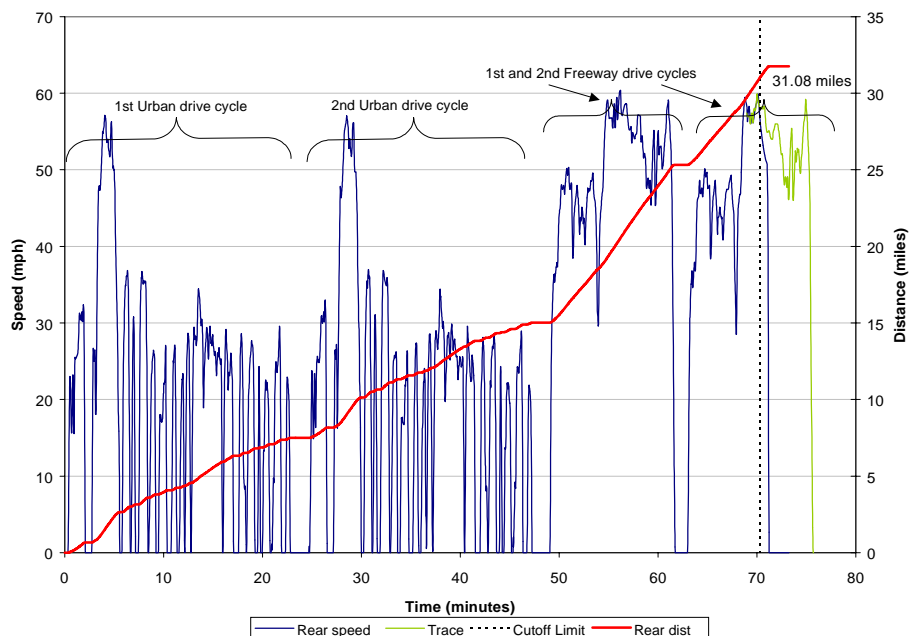


Figure 3-10 Combined UDS/HWFET Drive Profile - Test 1 Vehicle 3

3.3.6 Road Range Tests

Vehicle ranges were tested on the Pomona USPS delivery route (see Figure 3-3) at the vehicle’s maximum legal weight limit and on the Pomona Loop, seen in Figure 3-2.

Table 3-7 Road Range Test Results

	USPS Delivery Route	Pomona Loop – Min. Payload	Pomona Loop – Max Payload
Veh #3	29.4	48.5	42.4
Veh #4	32.7	44.7	42.6

The lower range on the USPS Delivery Route reflects the higher energy demands of the “stop and go” nature of the drive cycle.

3.3.7 State of Charge Meter Evaluation

While driving the vehicles on the USPS delivery route, the miles driven per division of the SOC meter were recorded as shown in Figure 3-11. The chart gives a representation of the distance covered by the vehicles versus SOC indications. It is fairly linear and provides a good confidence factor in the gage.

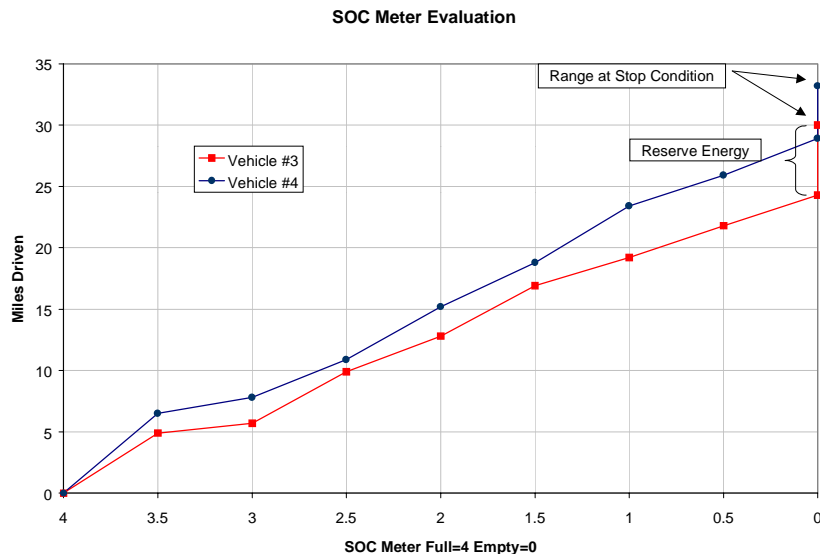


Figure 3-11 Delivery Route SOC Meter Evaluations for Vehicles #3 and #4

3.3.8 AC kWh per Mile Economy

To determine the AC kWh per mile economy, the vehicles were driven on the USPS delivery route until the stop condition was reached (when the battery light begins to flash). For these drives, the total number of miles driven and the total AC kWh energy consumed during recharge were recorded. The total AC kWh used divided by the total miles driven, yielded the AC kWh per mile economy (average of two drives) numbers shown in Table 3-8.

Table 3-8 AC kWh per Mile Economy

	USPS Delivery Route		Pomona UR-3	
	Veh #3	Veh #4	Veh #3	Veh #4
Total Miles Driven	29.9	35.4	43.1	43.7
AC kWh Recharge	29.6	31.0	30.0	30.0
AC kWh/mi	0.990	0.876	0.696	0.686

3.3.9 Battery Charging

The USPS delivery vehicles are charged conductively by means of an on-board charger and an off-board Electric Vehicle Supply Equipment (EVSE) unit. The EVSE verifies the proper connection between the utility grid and the electric vehicle before beginning the charging process. It uses an AVCON charging connector (Figure 3-12).



Figure 3-12 AVCON Charging Connector and Charge Port

The power quality characteristics of the charging systems were measured at the AC side with the use of a PowerProfiler 3030A manufactured by Dranetz-BMI. Table 3-9 shows various charger power quality characteristics recorded at minimum and maximum power input.

Recording the energy delivered to the vehicle at one-minute intervals produced the charging profiles seen in Figure 3-13. The tests were performed after a USPS delivery route range test and show that the charger resets hourly to recalibrate the charging system. The bulk of the charge is delivered within 5 hours and charging demand decreases until the charge is completed.

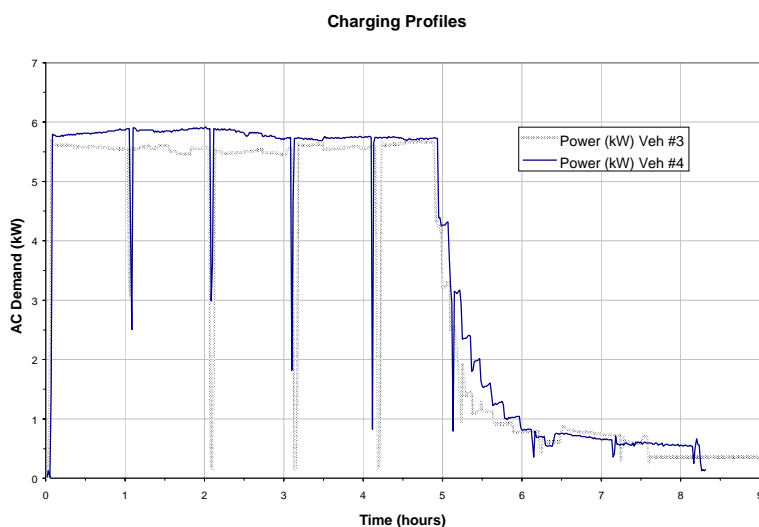


Figure 3-13 Charging Profiles for Vehicles #3 and #4

Table 3-9 Charger Performance

Measured Value	Vehicle #3		Vehicle #4	
	Minimum Power	Maximum Power	Minimum Power	Maximum Power
Voltage (Phase-N)	118.3 V	117.7 V	120.0 V	120.0 V
Current	1.55 A	23.98 A	0.630 A	24.03 A
Real Power	0.357 kW	5.622 kW	0.136 kW	5.749 kW
Reactive Power	-56.79 VAR	403.9 VAR	-13.6 VAR	417.6 VAR
Apparent Power	0.365 kVA	5.644 kVA	0.152 kVA	5.768 kVA
Total Power Factor	0.98 PF	1.00 PF	0.90 PF	1.00 PF
Displacement Power Factor	0.99 dPF	1.00 dPF	1.00 dPF	1.00 dPF
Voltage THD	1.0%	0.9%	0.9%	0.9%
Current THD	14.5%	4.7%	48.1%	3.7%

	USPS Requirement	Vehicle #3	Vehicle #4
Total Charging Time	< 8 hours	7 hours, 36 minutes	6 hours, 26 minutes
Total Energy Consumption		29.04 AC kWh	29.08 AC kWh

3.3.10 Sound Level Tests

Sound level tests were performed while charging and while driving on the Pomona USPS Delivery Route, to measure the sound level exhibited by the electric vehicle. The average sound level found at ear-level within the vehicle's cabin was 57.1 dBA for vehicle #3 and 58.0 dBA for vehicle #4.

While performing the charging sound level tests, there were some variables such as passing airplanes that could not be excluded from the sound profiles. These variables are seen as spikes on Figure 3-14 and should be neglected.

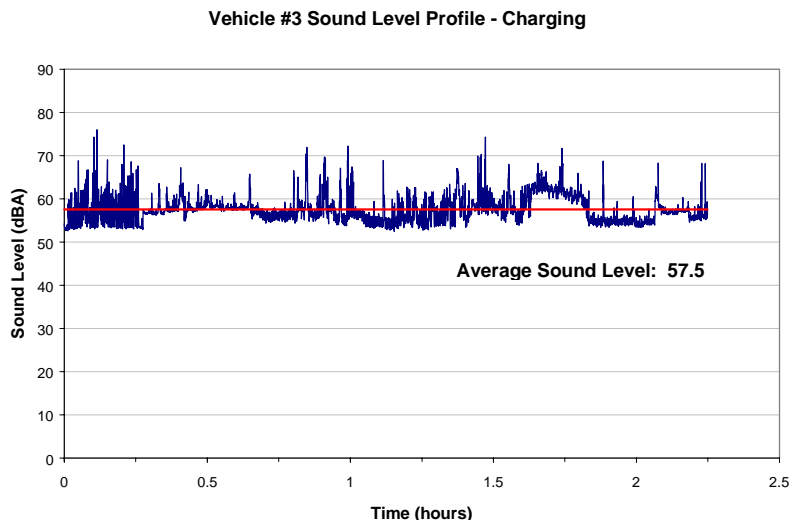


Figure 3-14 Charging Sound Level Profile – Vehicle #3

3.3.11 EMF Tests and Compatibility with Electronic Devices

The average intensity of magnetic fields for the EV on the driver's side was approximately 0.33 (standard deviation = 0.25) mG and 0.30 for a gasoline vehicle (standard deviation = 0.25) mG. The EV had approximately 40% more harmonics.

While the EV was in charging mode, the magnetic fields were approximately 1.0 mG one foot away from the EV compared to the ambient magnetic level. 1.0 mG is equivalent to sitting in front of a personal computer monitor. The magnetic fields in a typical house in the U.S. are approximately 0.6 mG, according to an Electric Power Research Institute study. ⁽¹⁾

Table 3-10 shows the devices tested with the EVs and that there were no anomalies present when these devices were operated in the vehicles. These tests were performed when the vehicle was turned on and while the vehicle was being driven.

Table 3-10 Interference by Electronic Devices or EV

	Vehicle #3	Vehicle #4
Cellular phone	None	None
Mobile radio	None	None
Notebook computer	None	None

(1) "EMF in American Homes", EPRI Journal April/May 1993

Accelerated Reliability Test Results

3.3.12 Vehicle Mileage and Energy Usage Since Inception

Postal vehicles 1240001 and 1240002 (also referred to as Vehicles #1 and #2) have been on an accelerated mileage regimen in which they were expected to achieve over 20,000 miles in a one-year period. During testing, all mileage, ambient temperature and energy usage is collected for each drive on log sheets (Appendix D). Energy is also recorded by a kilowatt-hour measuring device, which is downloaded periodically. Table 3-11, below, summarizes the cumulative mileage and energy usage recorded at the end of the project.

Table 3-11 Vehicle Mileage and Energy Usage – As of October 31, 2001

	ECRV #1	ECRV #2
Start Odometer	153	143
Current Odometer	20,981	22,423
Total Miles Driven	20,828	22,280
Total ACkWh Used	12,913*	13,723
AC kWh/mile	0.620	0.616

*Extrapolated due to two weeks of data missing during the 2nd quarter 2001 and one month during the 3rd quarter 2001 (ABB meter calibration).

Please refer to Figure 3-15. It shows the growth of recorded miles from the beginning of the tests to December 15, 2001.

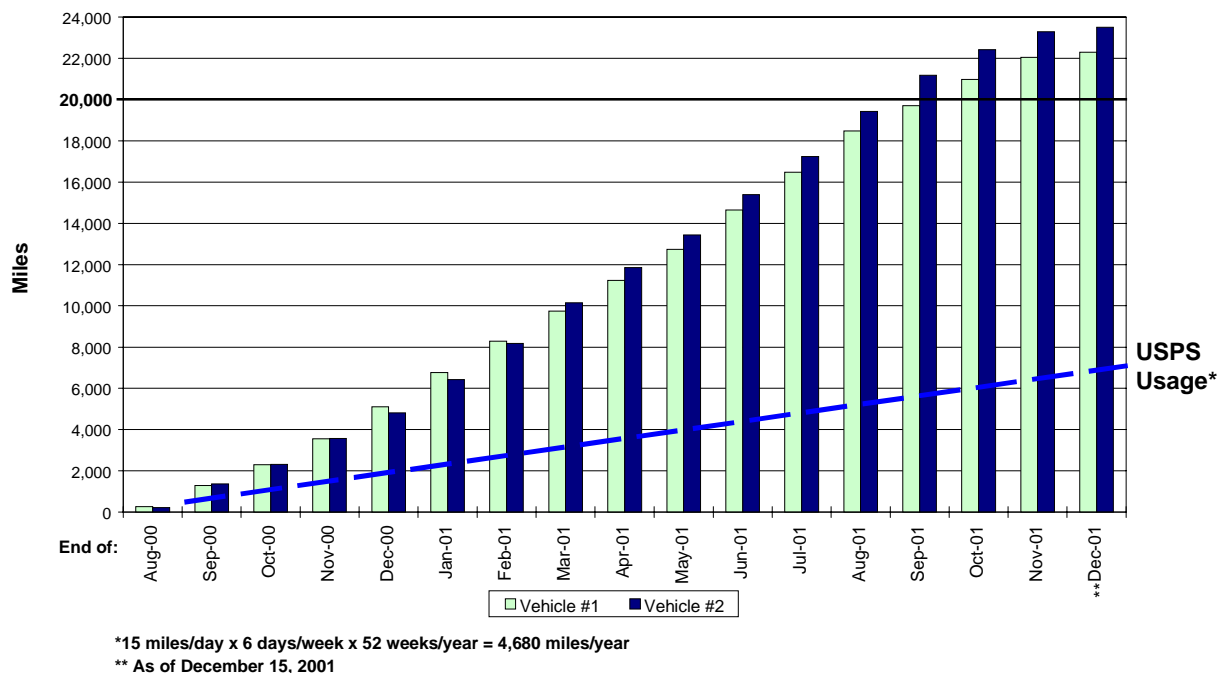


Figure 3-15 Cumulative Distance Driven by Vehicles No. 1 and No. 2

3.3.13 Operating Cost Analysis

To get “real world” electricity usage (miles per AC kWh) and cost (cents per mile) data, the odometers of all the ECRVs at the Fountain Valley USPS facilities were read on June 1, 2001, before the vehicles were leaving for their daily route (Figure 3-16). The odometers were read again on July 2, 2001 (Table 3-12A) and the ABB (recording) kWh meter, which serves all the charging stations, was downloaded (Figure 3-17 and Table 3-12B).

As shown on Table 3-12, the 28 ECRVs logged 8,653 miles during the month. Table 3-12B indicates that 9,446.40 kWh were used during the period. These two numbers yield an average of 1.09 kWh/mile energy efficiency. The “fuel cost”, based on the “Billing Usage Summary” shown in Appendix A1, is $1.09 \text{ kWh/mile} \times \$0.2235/\text{kWh} = \$0.244/\text{mile}$.

However, it should be noted in Appendix B1 that a significant amount of electricity was used to charge the ECRVs during the On-Peak (Time of the Day) periods (1,045 kWh). **The USPS should avoid this situation.** If all vehicle charging had been done Off-Peak, the total monthly bill (Appendix A2) would have been \$1,565.25 (\$0.1719/kWh). The fuel cost would have been $1.09 \text{ kWh/mile} \times \$0.1719/\text{kWh} = \$0.187/\text{mile}$. The total energy usage of Appendices A1 and A2 (9,107 kWh) do not match the total shown in Table 3-12B (9,446.4 kWh) because the “As Billed” Service Period was 06/04/01 to 07/03/01 and the “Logged Period” (Table 3-12A and 3-12B) was 06/01/01 to 06/30/01. The energy cost analysis results are summarized in Table 3-13.

It is also interesting to note (Table 3-11) that under the reliability test driving schedule (deeper battery discharge levels) the ECRVs are more efficient (0.62 kWh/mile). In this instance the fuel cost would have been (assuming no on-peak energy usage): **0.62 kWh/mile x \$0.1719/kWh = \$0.106/mile.**

To document individual ECRV charging patterns and energy use, a portable ABB meter was installed at a randomly selected charging station. The meter documents the start time, end time, and profile of the charging energy demand. Figure 3-18 shows some level of charging during the weekends and partially explains the less than optimal energy efficiency of the vehicles. This points to the need for further development of the recharging strategy programmed in the vehicles.

Table 3-12A Fountain Valley ECRV Mileage

Vehicle #	Mileage as of June 1st	Mileage as of July 1st	Miles During Month
1240028	1090	1350	260
1240023	996	1252	256
1240027	1261	1557	296
1240024	1226	1541	315
1240019	1173	1441	268
1240033	515	804	289
1240034	943	1293	350
1240029	1195	1535	340
1240020	969	1285	316
1240016	827	1221	394
1240018	1132	1395	263
1240017	1658	2072	414
1240031	630	852	222
1240015	1044	1332	288
1240009	1107	1483	376
1240013	1192	1478	286
1240012	1486	1842	356
1240011	1525	1861	336
1240010	837	1223	386
1240032	921	1307	386
1240008	991	1267	276
1240007	1127	1379	252
1240021	977	1196	219
1240026	966	1263	297
1240022	1062	1261	199
1240025	1266	1609	343
1240014	1215	1528	313
1240030	959	1316	357
FLEET TOTALS	30290	38943	8653

8653 miles / 28 vehicles = 309 miles / vehicle
 309 miles / 24 days = 19.9 miles / vehicle / day



Figure 3-16 ECRVs on Charge at Fountain Valley



Figure 3-17 ABB Meter

Table 3-12B ABB Meter Data - Meter No. P0826W000121

Date	kWh
06/01/2001	347.82
06/02/2001	323.46
06/03/2001	77.22
06/04/2001	311.88
06/05/2001	322.14
06/06/2001	386.22
06/07/2001	363.6
06/08/2001	313.98
06/09/2001	356.4
06/10/2001	96.42
06/11/2001	309.42
06/12/2001	334.2
06/13/2001	318.66
06/14/2001	354.36
06/15/2001	334.14
06/16/2001	375.18
06/17/2001	107.1
06/18/2001	304.08
06/19/2001	339.36
06/20/2001	338.1
06/21/2001	360.9
06/22/2001	415.68
06/23/2001	388.74
06/24/2001	100.62
06/25/2001	336.72
06/26/2001	352.5
06/27/2001	377.28
06/28/2001	359.04
06/29/2001	372
06/30/2001	369.18
Total	9446.40

Table 3-13 Energy Cost Analysis

28 ECRVs at Fountain Valley USPS Facilities – June 2001

Total Miles	8,653
Total AC Energy (kWh)	9,446
AC kWh/Mile	1.09
Energy Bill* - With On-Peak Usage (\$)	2,035
\$ / Mile	0.244
Energy Bill* - Without On-Peak Usage (\$)	1,565
\$ / Mile	0.187

* SCE TOU-EV-4 Service Plan (Summer)

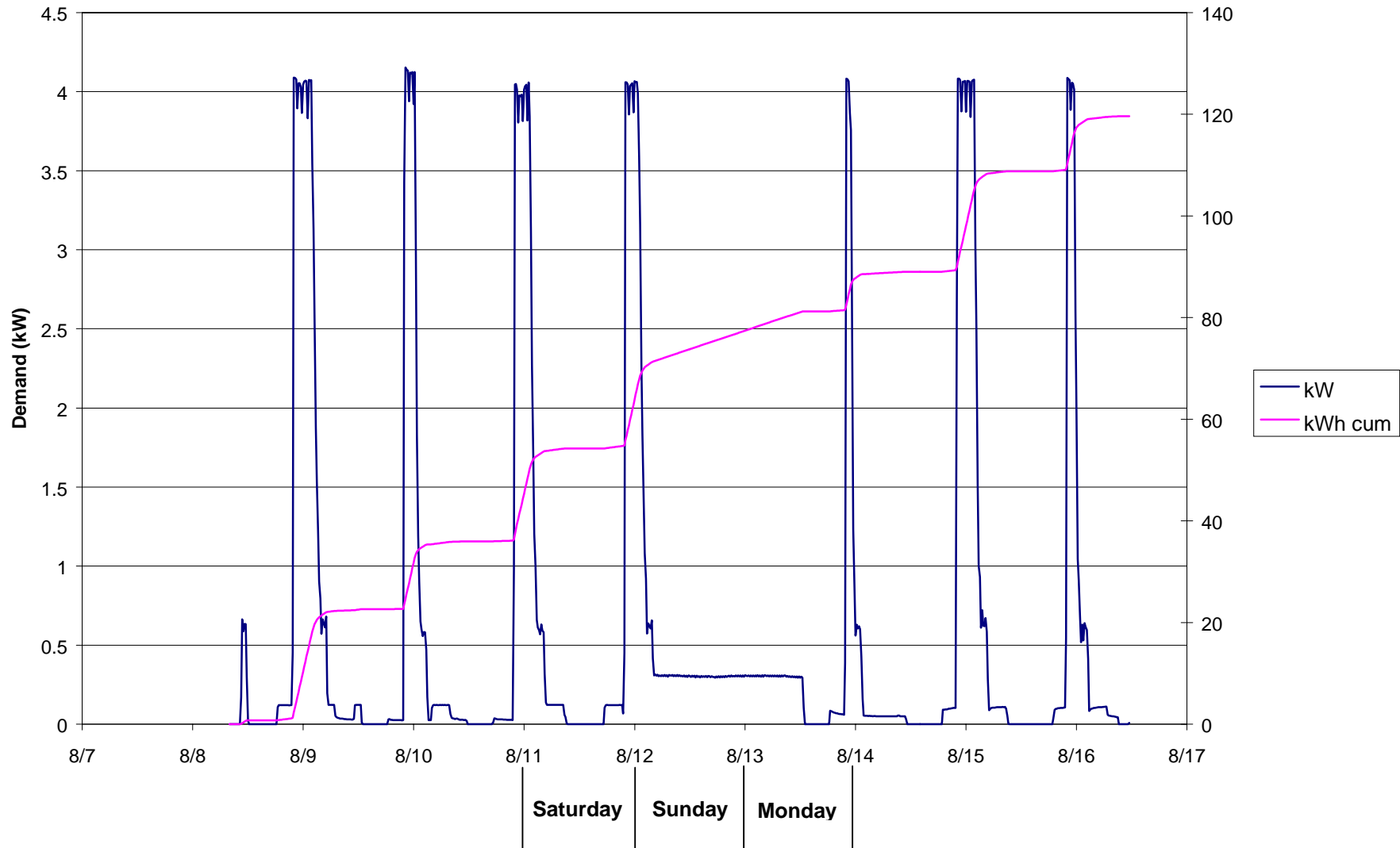


Figure 3-18 ECRV Charging Patterns - Fountain Valley Space 17b

3.3.14 Vehicle Range

Range tests are being performed periodically with the accelerated reliability vehicles on the Pomona Urban Loop (detailed Pomona Loop Map in Appendix B). All tests are performed at maximum payload (1250 lbs) with no auxiliary loads (UR3).

The vehicles are driven until they reach the stop condition, which is when the battery light begins to flash. The vehicles can be safely driven further past the stop condition for a few more miles until the Power Limit light comes on solid. When the Power Limit light begins to flash, the vehicle's top speed will be reduced to 25 mph (to protect the battery pack).

Table 3-14, below, shows the range results obtained as of October 31, 2001. As can be seen on the table, the vehicles generally complete in excess of 40 miles on the Pomona Loop. The most recent range test data sheets are included in Appendix C.

Table 3-14 Accelerated Reliability Vehicle Range Results

	Date Tested	Average Ambient Temp °F	Odometer Start	Odometer End	Range at Stop Condition	Battery Pack Installed On
Vehicle No. 124001	08-30-00	74.0	215	261	46	Original
	10-12-00	70.4	1,410	1,452	42	Original
	12-06-00	70.7	3,774	3,815	41	Original
	03-28-01	66.0	9,458	9,503	45	03-13-01
	06-18-01	88.5	13,764	13,811	47	04-06-01
	09-18-01	81.0	19,115	19,159	42	04-06-01
	09-19-01	69.0	19,175	19,219	44	05-01-01
	10-16-01	78.0	20,555	20,599	44	05-01-01
Vehicle No. 124002	08-31-00	78.6	164	210	46	Original
	10-12-00	70.4	1,545	1,584	39	Original
	12-06-00	70.7	3,791	3,833	42	Original
	03-27-01	68.2	9,849	9,899	50	Original
	06-15-01	84.0	14,326	14,375	49	Original
	09-18-01	71.0	20,254	20,301	47	Original*
	09-20-01	65.5	20,343	20,385	42	Original*
	10-17-01	69.0	22,051	22,089	38	07-15-01

* Four modules replaced to-date.

3.3.15 Vehicle Reliability and Downtimes Since Inception

Tables 3-15A and 3-15B, below, show the incidents that have been recorded with the accelerated reliability vehicles since the beginning of the tests.

Table 3-16 provides a summary of the vehicle component reliability during the test period.

Table 3-15A Vehicle Incidents and Downtimes for Vehicle No. 124001

Odometer (Miles)	Date	Description	Downtime - Days	Ford Report #
294	09-08-00	Vehicle charger charging abnormally, after 10 hours to charge. Charging profile showed that charger repeatedly charged for three minutes then turned off for seven minutes until the charge was complete. Ford was notified.	0	NA
403	09-11-00	Charger not functioning. Repaired 9-13-00. New charger installed. Charger cooling fan failed.	2	ELLV Down Report 03
4,044	12-10-00	Vehicle showing power limit lamp flashing after 28.7 miles.	0	NA
6,693	02-05-01	At beginning of second drive of the day, the vehicle lost power and service and power limit lights came on. The DC/DC converter was replaced.	0.5	Concern Report #01
8,818	03-10-01	After about one mile away from the EVTC, the vehicle lost power and main contactor clicking sounds could be heard. The battery pack was replaced by a remanufactured one.	2	Concern Report #05
8,938	03-14-01	At the end of the first drive of the day, the vehicle lost power and the service light came on. The Battery Control Module (BCM) was replaced.	2.5	Concern Report #06
10,069	04-04-01	Service light came on. Weak battery module. A remanufactured pack was installed.	1	Concern Report #19
11,238	04-30-01	Service light came on. New battery module installed to replace faulty one.	0.5	Concern Report #27
11,323	05-01-01	Vehicle would not recharge. Remanufactured battery pack installed by Ford.	1	Concern Report #28
19,115	09-17-01	Vehicle lost power after 25 miles. Had to be towed back to EVTC. Full charge on 9-18-01. All battery fault codes cleared.	0	Concern Report #114
19,287	09-20-01	Vehicle lost power after 3 miles – service light on – Coolant Pump and 3 battery pack modules replaced. Vehicle back in service on 09-26-01.	3	Concern Report #117

Table 3-15B Vehicle Incidents and Downtimes for Vehicle No. 124002

Odometer (Miles)	Date	Description	Downtime - Days	Ford Report #
415	09-11-00	When vehicle was driven to power limit mode the power steering on the vehicle became hard. High voltage fuse and power steering pump replaced.	1	ELLV Down Report 02
1,503	10-07-00	Power limit light on at 27.8 miles. Drive ended at 34 miles.	0	NA
1,605	10-13-00	Power steering pump upgraded. Requested by Ford.	NA	ELLV Down Report 04
3,643	12-03-00	Vehicle showing power limit after only 27.4 miles, had to be towed back to EVTC. Vehicle was discharged completely on 12-02-00. OK next day.	0	NA
4,139	12-12-00	Power Control Station (PCS) service light came on. The power supply circuit for the PCS was cycled off and on. PCS now functioning normally. (The PCS used by SCE is not the same brand/model as installed at the Post Office sites.)	0	NA
11,886	05-01-01	Vehicle lost power after 26.5 miles. Had to be towed back to EVTC. OK next day.	0	NA
12,562	05-14-01	Vehicle lost power after 28.9 miles. Was towed back to EVTC. OK next day.	0.5	NA
13,282	05-29-01	Vehicle lost power after 28.3 miles. Had to be towed back to EVTC. OK next day.	0.5	NA
16,239	07-15-01	Vehicle lost power after 22.1 miles. Service light came on. Nine battery modules were found out of specification and a remanufactured battery pack was installed by Ford.	2	Concern Report #59
18,364	08-15-01	Vehicle charge was interrupted after 4 hours by the PCS. The PCS charge interrupted and service lights were on. OK next day.	0	90
18,576	08-20-01	Ditto – PCS P045 found faulty. Substituted PCS P031 and charging resumed OK.	0	90
19,481	09-04-01	Shift Indicator found with broken cable during routine servicing. Was replaced by Ford.	NA*	Concern Report #108
21,651	10-09-01	Vehicle lost power after 33.2 miles and was towed back to EVTC. Performed OK next day.	0	NA
22,278	10-22-01	Service light came on after 11.9 miles (on previous day after 22.6 miles). Vehicle completed 21.4 miles. Two battery modules were replaced.	3	NA

* Cable was replaced during scheduled maintenance.

Table 3-16 Vehicle Component Reliability

Component	Number of Incidents	
	Vehicle No. 1	Vehicle No. 2
Traction Battery	5	2
Charging System	2	2
DC/DC Converter	1	
Battery Control Module	1	
Power Steering		1
Shift Indicator		1

3.3.16 Vehicle Availability

Please refer to Figure 3-19 for records of the monthly availability of vehicles No. 1 and 2 since the test started.

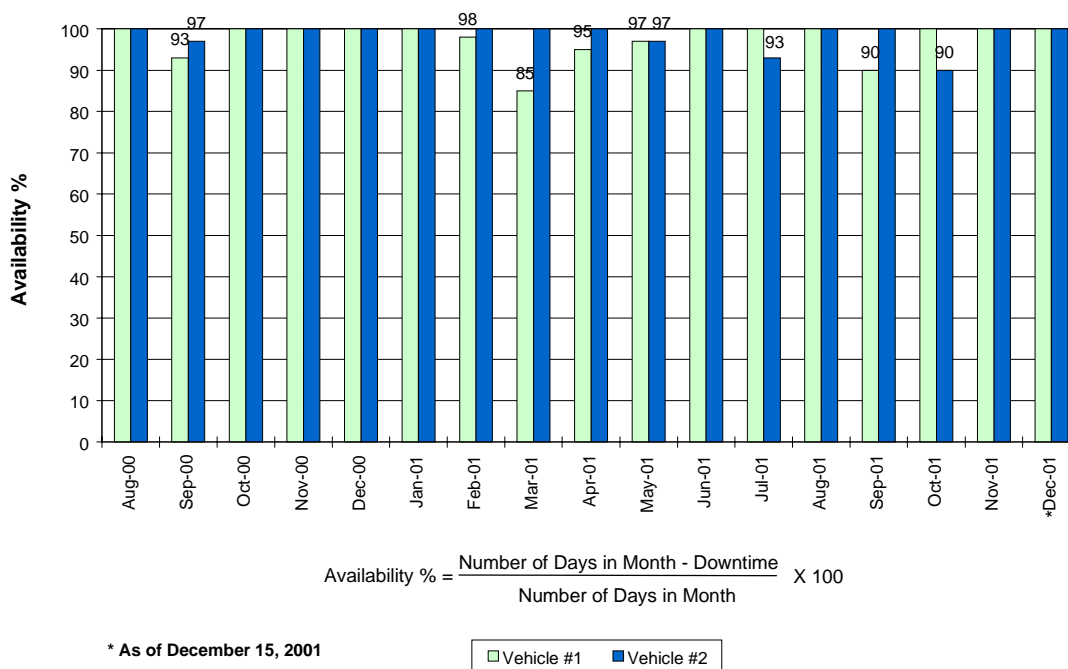


Figure 3-19 Monthly Vehicle Availability - Accelerated Reliability Testing

Note that the formula shown on Figure 3-19 does not qualify the Downtime Days, i.e. downtime during weekends has the same impact as downtime during working days since the ECRVs deliver mail on Saturdays and should be available on Sundays.

From August 2000 to December 15, 2001 Vehicle No. 1 had an overall availability of 97.5% and Vehicle No. 2 of 98.6%.

IV. DISCUSSION OF PROJECT RESULTS, CONCLUSIONS, AND RECOMMENDATIONS

The vehicles met all the USPS requirements, except for range. Dynamometer test results averaged 31 miles. Since the vehicles are expected to average 15 miles per day in actual operation, this should not be a problem. The urban Pomona Loop tests yielded an average of 42 miles of range.

One concern was identified by reliability tests: if the vehicles are not completely discharged on a regular basis, the range performance may suffer. This battery management issue could create long-term battery life problems.

The status of the project is summarized as follows:

- All performance requirements were met except range
- USPS mission needs were met
- Chassis, powertrain and charger reliability were good
- Battery management software was being evaluated
- 20,000 mile goal by October 2001 was met
- User feedback was good

As of October 31, 2001 the EVs were being deployed and successfully serving their mission (Figure 3-20).



Figure 3-20 Electric Mail Delivery in Southern California

Considering the demanding driving conditions of the reliability tests, overall availability has been good. Vehicle No. 1 has a 97.5% recorded availability from August 2000 to December 15, 2001. Vehicle No. 2 has a 98.6% recorded availability for the same period.

Although the original mileage goal of 20,000 miles per vehicle has already been reached, SCE has continued to drive the vehicles because we firmly believe in the value of collecting reliability data. We propose that added mileage should be logged, at least for one more quarter. Should the data and opinions of the interested parties warrant it, continued extension of the contract on a quarter-by-quarter basis could be considered.

The main area of concern has been the traction battery. None of the vehicles tested kept their original battery. Remanufactured battery packs were installed and several battery modules were replaced. Battery QA and charging issues were raised and Ford made several upgrades of the charging algorithm.

This points to the fact that, only recently has the vehicle charging software been “stabilized”, and a true battery life assessment can be made.

We know that any battery replacements taking place before the end of the economic life of the vehicle will significantly impact the lifecycle cost of the vehicles. The USPS is currently faced with the decision to purchase the next batch of vehicles (1,000 in 2002) and is paying particular attention to ownership and operating costs.

Another area of concern is vehicle efficiency and energy (fuel) costs. We feel that the AC kWh/mile numbers could be lowered with optimization of the charging algorithm currently programmed in the vehicles tested. It is also imperative that the USPS prevent “on-peak” charging as much as possible.

APPENDIX A1: BILLING USAGE SUMMARY – AS BILLED

Service Account No.: 017-4558-74
 Customer Name: United States Postal Service
 Service Address: 17227 New Hope Street
 Fountain Valley, CA 92728-9005 USA
 Service Period: 06/04/01 to 07/03/01
 Service Plan: TOU-EV-4

Description	Usage	Unit	Unit Cost (\$)	Amount (\$)
Facilities demand	119	kW	5.40	642.60
Summer on-peak demand	24	kW	16.4	393.60
<i>Subtotal – Demand charges</i>	<i>NA</i>	<i>kW</i>	<i>NA</i>	<i>1036.20</i>
Summer on-peak energy	1045	kWh	0.16586	173.32
Summer off-peak energy	8062	kWh	0.09241	745.01
<i>Subtotal – Energy charges</i>	<i>9107</i>	<i>kWh</i>	<i>NA</i>	<i>918.33</i>
Other customer charges and state tax	NA	NA	NA	81.07
Total charges for period	NA	NA	NA	2035.60

Average energy cost for period: $\frac{2035.60}{9107} = \$0.2235 / \text{kWh}$

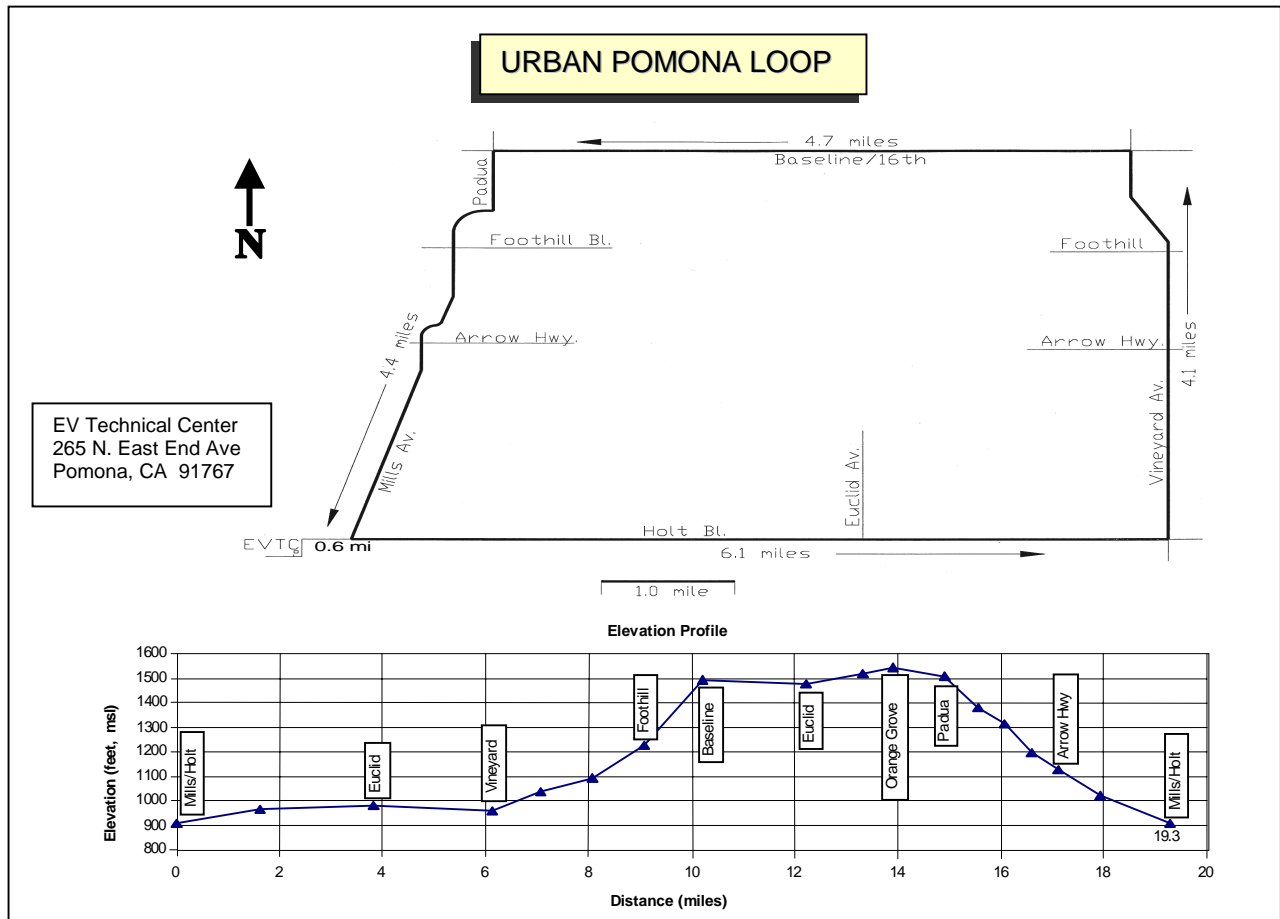
APPENDIX A2: BILLING USAGE SUMMARY – NO ON-PEAK ENERGY

Service Account No.: 017-4558-74
 Customer Name: United States Postal Service
 Service Address: 17227 New Hope Street
 Fountain Valley, CA 92728-9005 USA
 Service Period: 06/04/01 to 07/03/01
 Service Plan: TOU-EV-4

Description	Usage	Unit	Unit Cost (\$)	Amount (\$)
Facilities demand	119	kW	5.40	642.60
Summer on-peak demand	0	kW	16.4	0
<i>Subtotal – Demand charges</i>	<i>NA</i>	<i>kW</i>	<i>NA</i>	<i>642.60</i>
Summer on-peak energy	0	kWh	0.16586	0
Summer off-peak energy	9107	kWh	0.09241	841.58
<i>Subtotal – Energy charges</i>	<i>9107</i>	<i>kWh</i>	<i>NA</i>	<i>841.58</i>
Other customer charges and state tax	NA	NA	NA	81.07
Total charges for period	NA	NA	NA	1565.25

Average energy cost for period: $\frac{1565.25}{9107} = \$0.1719 / \text{kWh}$

APPENDIX B: POMONA LOOP MAP



APPENDIX D: DRIVER'S LOG SHEETS

Vehicle Number	1
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Date	Driver	Start					End					Trip Dist.	AC meter#	AC kWh Start/End
		Time	Amb Temp	SOC	Odo	DTE	Time	Amb Temp	SOC	Odo	DTE			
8/28/00	Sanchez	3:35	85.3	100%	153	33	4:23	84.4	51.0%	170		16.8	01139878	10261/10273
8/29/00	solares	9:00		100%	170	33	9:27		100.0%	171	35	1.9	01139878	10273/10274
8/29/00	Sanchez	2:10	71.8	100%	171	33	3:52	71.6	0.0%	215	0	43.5	01139878	10274/10345
8/30/00	Sanchez	9:42	70	100%	215	38	11:30	77.9	0.0%	261	0	45.3	01139878	/
9/7/00													01139878	/
9/9/00	Barbour	7:15	59.7	100%	261	40	8:45	74.8	10.0%	294	6	32.9	01139878	10345/10370
9/10/00	Barbour	6:30	59.9	100%	294	39	8:20	65.7	0.0%	335	2	40.6	01139878	10370/10378
9/10/00	Barbour	11:40	80.6	40%	335	18	12:20	82.4	0.0%	350	3	15.6	01139878	10378/110407
9/11/00	Sanchez	3:10	98.1	100%	351	40	6:30	98.1	0.0%	403	0	52.6	01139878	10407/10450
9/13/00	Sanchez	2:10	93.1	100%	403	43	4:41	97.1	0.0%	453	0	50.2	01139878	10450/10486
9/14/00	Sanchez	9:50	81.3	100%	453	43	12:00	91.5	0.0%	493	0	40.8	01139878	10486/10518
9/15/00	Sanchez	10:20	87.1	100%	494	40	11:54	93.5	0.0%	535	0	40.7	01139878	10518/10561
9/15/00	Diaz	3:05		60%	535		4:00			557		22.4	01139878	/
9/16/00	Barbour	9:30	83.4	100%	557	40	11:15	89.8	0.0%	595	0	37.6	01139878	10561/10587
9/17/00	Barbour	8:20	76.2	100%	595	39	10:05	81.7	0.0%	634	0	39.0	01139878	10587/10615
9/18/00	Sanchez	9:00	81	100%	634	39	10:30	91.8	0.0%	674	0	40.7	01223620	1998/2016
9/18/00	Sanchez	2:35	99	97%	675	38	4:00	95	0.0%	708	0	33.5	01139878	10615/10641
9/19/00	Sanchez	8:50	73.2	100%	708	42	10:22	84.9	0.0%	749	0	40.8	01139878	10641/
9/19/00	Sanchez	2:40	87.1	80%	749	33	4:12	93	0.0%	786	0	37.0	01139878	10661/10690
9/20/00	Sanchez	8:30	68.5	100%	786	40	10:15	75.2	0.0%	828	0	41.7	01139878	10690/10710
9/20/00	Sanchez	2:10	85.6	90%	828	29	3:50	84.8	0.0%	866	0	38.3	01139878	10710/10740
9/21/00	Sanchez	8:50	77	100%	866	40	10:30		0.0%	904	0	38.4	01139878	10740/10760
9/21/00	Sanchez	2:36	70.8	100%	904	40	5:11	71.4	0.0%	945	0	40.8	01139878	10760/10793
9/23/00	Barbour	7:05	62.1	100%	945	44	8:35	63.3	0.0%	984	0	38.5	01139878	10793/10822
9/24/00	Barbour	11:06	82.4	100%	984	42	12:38	85.5	0.0%	1020	0	36.8	01139878	10822/10846

Comments (Dated): 9/12/00 vehicle only charged to 3/4 in the morning

9/18/00 11:30am stopped charge for 10min.

Vehicle Number	1
----------------	---

Date	Driver	Start					End					Trip Dist.	AC meter#	AC kWh Start/End
		Time	Amb Temp	SOC	Odo	DTE	Time	Amb Temp	SOC	Odo	DTE			
11/7/00	Sanchez	2:00	73.6	100%	2649	38	3:23	72.1	0.0%	2687	5	37.2	0113978	11961/11987
11/8/00	Sanchez	8:25	56	100%	2687	39	1:00	61	0.0%	2723	0	35.7	0113978	11987/11996
11/8/00	Sanchez	11:45	77	50%	2723	16	12:57	79	0.0%	2743	0	20.0	0113978	1996/12005
11/8/00	Sanchez	2:35	77	49%	2743	19	2:40	77	49.0%	2743	20	0.1	0171202	258/262
*11/09/00	Sanchez	11:10	64	100%	2743	38	12:27	62.3	0.0%	2783	2	40.0	01308606	2422/2434
11/9/00	Sanchez	3:10	60	65%	2783	30	4:12	57	0.0%	2811	0	28.4	0113978	12005/2508
11/13/00	Sanchez	10:15	68	100%	2811	41	11:54	78	0.0%	2851	4	39.9	01308606	2508/2511
11/13/00	Sanchez	2:45	80.1	95%	2851	37	4:00	66.3	0.0%	2887	3	35.4	01308606	2511/12100
11/14/00	Sanchez	9:10	61	100%	2887	42	11:10	65.4	0.0%	2927	0	40.1	01308606	12100/12132
11/16/00	Sanchez	9:30	58	100%	2927	41	10:50	60	0.0%	2954	0	27.7	01308606	12132/12148
11/16/00	Sanchez	1:30	64.2	100%	2954	38	3:00	62	0.0%	2994	0	40.1	01308606	12148/12175
11/17/00	Sanchez	9:20	58	100%	2994	38	10:50	65.2	0.0%	3030	0	33.2	01308606	12175/12195
11/17/00	Sanchez	3:20	65	100%	3030	35	4:35	64.7	0.0%	3068	0	38.4	01308606	12195/12222
11/18/00	Barbour	9:50	57.3	100%	3068	38	11:36	63.6	0.0%	3110	0	41.8	01308606	12222/12258
11/20/00	Sanchez	11:00	71	100%	3110	38	12:00	72.3	0.0%	3146	0	35.9	01308606	12258/12276
11/20/00	Sanchez	3:30	76	90%	3146	31	4:30	74	0.0%	3185	0	38.8	01308606	12276/12305
11/21/00	Sanchez	9:30	68	100%	3185	39	11:00	71	0.0%	3223	0	38.6	01308606	12305/12319
11/21/00	Sanchez	1:30	76	60%	3223	22	2:15	72	0.0%	3250	0	27.2	01308606	12319/12327
11/21/00	Sanchez	3:30	70	35%	3250	15	4:15	68	0.0%	3266	0	15.6	01308606	12327/12356
11/22/00	Sanchez	10:40	64	100%	3266	39	12:00	67	0.0%	3300	0	34.4	01308606	12356/
														/
														/
														/
														/
														/

Comments (Dated): *note on 11/9/00 postal van#1 was charged on 01308606

Vehicle Number	1
----------------	---

Date	Driver	Start					End					Trip Dist.	AC meter#	AC kWh Start/End
		Time	Amb Temp	SOC	Odo	DTE	Time	Amb Temp	SOC		DTE			
11/27/00	Neil	3:15	83	100%	3301	39	4:15	77	33.0%	3323	10	21.9	01139878	/12437
11/28/00	Sanchez	7:50	59.6	100%	3323	39	9:14	65.9	0.0%	3358	0	34.6	01139878	12437/12457
11/28/00	Sanchez	1:05	76	100%	3358	31	2:35	75.5	0.0%	3398	0	40.1	01139878	12457/12483
11/29/00	Sanchez	9:20	59.3	100%	3398	32	10:35	60.4	0.0%	3432	0	34.5	01139878	12483/12501
11/29/00	Sanchez	2:00	67	75%	3432	30	3:30	66.3	0.0%	3472	0	39.7	01139878	12501/12531
11/30/00	Sanchez	9:30	60	100%	3472	32	10:30	62	0.0%	3505	0	33.0	01139878	12531/12550
11/30/00	Sanchez	2:06	69.4	97%	3505	29	3:40	68.5	0.0%	3545	0	39.8	01139878	12550/12580
12/1/00	Sanchez	8:50	59.9	100%	3545	32	10:00	62.2	0.0%	3584	0	39.2	01139878	12580/12603
12/1/00	Sanchez	3:00	59	100%	3584	10	4:25	57	0.0%	3616	0	32.2	01139878	12603/12642
12/4/00	Sanchez	9:25	61	100%	3616	38	11:10	73	0.0%	3652	0	35.6	01139878	12642/12659
12/4/00	Sanchez	12:30	70	80%	3652	29	2:30	74.6	0.0%	3692	0	40.0	01139878	12659/12688
12/5/00	Sanchez	9:15	69.8	100%	3692	29	10:30	73.4	0.0%	3732	0	39.9	01139878	12688/12706
12/5/00	Sanchez	1:45	78.4	75%	3732	22	3:00	80.1	0.0%	3772	0	40.0	01139878	12706/12736
12/6/00	Sanchez	8:30	68	100%	3772	35	8:50	98	37.0%	3773	0	0.1	01139878	12736/12736
*12/6/00	Sanchez	1:05	71.4	100%	3773	32	2:45	70	0.0%	3814	0	41.1	01139878	12736/12764
12/7/00	Sanchez	10:30	68	100%	3814	39	11:30	71	30.0%	3836	15	22.0	01139878	12764/12776
12/7/00	Sanchez	1:45	67	100%	3836	31	3:30	72.5	0.0%	3880	0	44.0	01139878	12776/12807
12/8/00	Sanchez	8:15	62.7	100%	3880	31	10:03	61.6	0.0%	3921	0	40.7	01139878	12807/12829
12/8/00	Sanchez	2:05	61.9	100%	3921	32	4:26	62.1	0.0%	3967	0	45.9	01139878	12829/12861
12/9/00	Barbour	8:30	54.7	100%	3967	34	10:04	57.4	2.0%	4007	4	39.6	01139878	12861/12889
12/10/00	Barbour	10:15	56.8	100%	4007	36	11:48	58.8	0.0%	4044	0	37.3	01139878	12889/12918
12/11/00	Sanchez	8:15	57	100%	4044	31	10:23	60.9	0.0%	4086	0	42.2	01139878	12918/12927
12/12/00	Sanchez	11:00	60	25%	4086	9	11:50	59.9	0.0%	4106	0	20.3	01139878	12927/12971
12/12/00	Sanchez	2:10	63	52%	4106	20	3:15	61.4	0.0%	4130	0	24.0	01139878	12940/12971
12/13/00	Sanchez	8:15	60	100%	4130	35	10:10	60	0.0%	4173	0	42.6	01139878	12971/12990

Comments (Dated): *driven with no weight / 2/10/00 power limit light flashing@28.7 miles

Vehicle Number	1
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Date	Driver	Start					End					Trip Dist.	AC meter#	AC kWh Start/End
		Time	Amb Temp	SOC	Odo	DTE	Time	Amb Temp	SOC	Odo	DTE			
12/13/00	Sanchez	13:30	65.5	75%	4173	28	15:05	64.6	0.0%	4212	0	39.1	01139878	12990/13021
12/14/00	Sanchez	8:10	61	100%	4212	35	10:00	63.3	0.0%	4252	0	40.2	01139879	13021/13042
12/14/00	Sanchez	14:00	62	100%	4252	38	16:20	58.1	0.0%	4293	0	40.9	01139880	13042/13069
12/15/00	Sanchez	8:00	61	100%	4293	38	9:45	62	0.0%	4334	0	41.1	01139881	13069/130087
12/15/00	Sanchez	13:10	64	72%	4334	28	14:42	652	0.0%	4372	0	38.4	01139882	13087/13138
12/18/00	Sanchez	10:30	66	100%	4372	38	12:20	73.6	0.0%	4415	0	42.9	01139883	13138/13157
12/18/00	Barbour	15:50	73.2	85%	4415	31	17:16	65.7	0.0%	4453	0	37.3	01139884	13157/13184
12/19/00	Sanchez	7:50	62	100%	4453	39	9:55	62.9	50.0%	4474	20	21.3	01139885	13184/ 13197
12/19/00	Sanchez	11:25	71.5	100%	4474	39	3:35	75.1	0.0%	4523	0	49.2	01139886	13197/13227
12/20/00	Sanchez	8:10	64.1	100%	4523	39	10:00	63.8	0.0%	4564	0	41.5	01139887	13227/13249
12/20/00	Sanchez	2:00	70.3	100%	4564	39	3:44	70.1	0.0%	4606	0	41.1	01139888	13249/13279
12/21/00	Sanchez	8:10	59.6	100%	4606	40	9:48	65	0.0%	4647	0	41.1	01139889	13279/13301
12/21/00	Sanchez	1:50	72	100%	4647	39	3:40	70.9	0.0%	4688	0	41.0	01139890	13301/
12/22/00	Sanchez	8:40	52	100%	4688	40	10:20	61.2	0.0%	4731	0	43.2	01139891	/13354
12/22/00	Sanchez	2:30	67.6	90%	4731	30	5:00	64.2	0.0%	4777	0	48.2	01139892	13354/13389
12/23/00	Barbour	8:25	56.1	100%	4777	40	9:57	60	2.0%	4815	7	37.4	01139893	13389/13434
12/26/00	Sanchez	8:00	60	100%	4815	40	10:00	62	0.0%	4856	0	41.8	01139894	13434/13456
12/26/00	Sanchez	7:00	68.5	100%	4856	31	3:58	67.8	0.0%	4896	0	40.0	01139895	13456/13484
12/27/00	Sanchez	9:05	60	100%	4896	39	10:51	64	0.0%	4938	0	41.3	01139896	13484/13507
12/27/00	Sanchez	3:10	71	100%	4938	39	4:57	69.2	2.0%	4979	3	41.0	01139897	13507/13535
12/28/00	Sanchez	8:10	61.7	100%	4979	40	9:47	67	0.0%	5020	3	41.1	01139898	13535/13564
12/28/00	Sanchez	1:15	7.25	97%	5020	32	2:52	72.1	0.0%	5061	0	41.0	01139899	13564/13584
12/29/00	Sanchez	8:50	60	100%	5061	40	10:34	69	0.0%	5102	0	41.9	01139900	13584/13634
1/2/01	Sanchez	8:08	62	100%	5102	40	9:37	64	0.0%	5137	0	34.9	01139901	13634/13655
1/2/01	Sanchez	4:07	74.4	100%	5137	39	4:25	74.3	98.0%	5141	33	45.0	01139902	13655/13663

Comments (Dated): 12/15/00 van taken down below power limit and drained. With AC, all lights & fan on. Put back on charge at 4:30.
 12/22/00 van driven down all lights left on AC & fan, put back on charge at 5:30. 12/23-heater on.
 01/2/01 Note: van reached power limit at 27 miles; the wrench tool on dash board came on.

Vehicle Number	1
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Date	Driver	Start					End					Trip Dist.	AC meter#	AC kWh Start/End
		Time	Amb Temp	SOC	Odo	DTE	Time	Amb Temp	SOC	Odo	DTE			
1/3/01	Sanchez	8:35	64.1	100%	5141	39	10:21	70.1	0.0%	5181	0	39.7	01139178	13663/13681
*1/3/01	Sanchez	1:45	74.8	80%	5181	29	3:27	76.8	0.0%	5220	0	39.3	01139178	13681/13712
1/4/01	Sanchez	8:10	59.5	100%	5220	36	3:27	68.5	0.0%	5263	0	42.5	01139178	13712/13734
1/4/01	Sanchez	2:10	79	100%	5263	31	10:05	76	0.0%	5306	0	43.2	01139178	13734/13764
1/5/01	Sanchez	8:00	65	100%	5306	37	4:00	67	0.0%	5348	0	42.0	01139178	13764/13784
1/5/01	Sanchez	2:05	68.5	95%	5348	30	10:10	69.2	0.0%	5387	0	49.0	01139178	13784/13813
1/6/01	Barbour	8:18	56	100%	5387	38	4:10	58	0.0%	5425	0	38.7	01139178	13813/13826
1/6/01	Barbour	12:08	67	70%	5425	25	10:02	71	0.0%	5450	0	24.7	01139178	13826/13861
1/8/01	Sanchez	8:10	64	100%	5450	38	1:16	53	0.0%	5480	0	29.8	01139178	13861/13880
1/8/01	Sanchez	1:45	54	100%	5480	32	9:34	59.7	0.0%	5519	0	39.0	01139178	13880/13907
1/9/01	Sanchez	7:40	55	100%	5519	30	3:45	64.3	0.0%	5552	0	33.3	01139178	13907/13927
1/9/01	Sanchez	12:45	68.5	100%	5552	29	9:13	63.8	0.0%	5592	0	40.3	01139178	13927/13955
1/10/01	Sanchez	8:25	60	100%	5592	30	2:26	62.7	0.0%	5630	0	37.5	01139178	13955/13979
1/10/01	Sanchez	1:35	60.1	100%	5630	30	10:00	57	27.0%	5658	19	28.5	01139178	13979/14008
1/12/01	Sanchez	7:45		100%	5658	31	2:45		26.0%	5681	19	23.0	01139178	14008/
1/12/01	Sanchez	2:10	52	100%	5681	31	9:10	50	0.0%	5721	0	40.1	01139178	/14051
1/13/01	Barbour	11:00	53	100%	5721	32	4:05	56	0.0%	5754	0	33.0	01139178	14051/14072
1/14/01	Sanchez	8:30	40	100%	5754	31	12:24	42	0.0%	5786	0	31.9	01139178	14072/14087
1/14/01	Sanchez	12:30	60	76%	5786	27	9:50	64	0.0%	5825	0	38.4	01139178	14087/14115
1/15/01	Sanchez	8:12	377	100%	5825	31	1:50		0.0%	5859	0	34.0	01139178	14115/14135
1/15/01	Sanchez	1:24	57	100%	5859	30	9:48	57	0.0%	5898	0	39.3	01139178	14135/14163
1/16/01	Sanchez	7:50	40	100%	5898	31	2:55	58	0.0%	5938	0	40.0	01139178	14163/14182
1/16/01	Sanchez	1:15		100%	5938	0	9:45		0.0%	5979	0	41.7	01139178	14182/14212
1/17/01	Sanchez	8:36	44	100%	5979	32	3:12	57	0.0%	6022	0	42.4	01139178	14212/14228
1/17/01	Sanchez	12:45		75%	6022	27	3:37	54	0.0%	6056	0	33.9	01139178	14228/14257

Comments (Dated): *01/03/01 discharged at 3:27 to 4:50

Vehicle Number	1
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Date	Driver	Start					End					Trip Dist.	AC meter#	AC kWh Start/End
		Time	Amb Temp	SOC	Odo	DTE	Time	Amb Temp	SOC	Odo	DTE			
1/18/01	Sanchez	7:45	54	100%	6058	38	8:26	58	0.0%	6093	0	37.5	01139178	14257/14267
1/18/01	Sanchez	10:15	59	42%	6093	12		65	0.0%	6113	0	20.1	01139178	14267/14275
1/18/01	Sanchez	1:50	64	49%	6113	13	1:50	64	0.0%	6133	0	20.0	01139178	14275/14307
1/19/01	Sanchez	10:55	59	100%	6133	39	5:00	54	0.0%	6177	0	44.0	01139178	14307/14947
1/21/01	Babour	11:20	63	100%	6177	38	12:47	67	0.0%	6214	0	37.4	01139178	14947/14973
1/22/01	Sanchez	7:45	65	100%	6214	39	9:35	69	0.0%	6256	0	41.7	01139178	14973/14389
1/22/01	Sanchez	12:20	70	70%	6256	23	1:42	71	0.0%	6290	0	34.1	01139178	14389/14399
1/22/01	Sanchez	3:40	59	13%	6290	11	3:55	59	30.0%	6295	15	4.9	01139178	14399/14423
1/23/01	Sanchez	8:40	49	100%	6295	39	10:30	70	0.0%	6335	0	40.0	01139178	14423/14440
1/23/01	Sanchez	1:45	71	80%	6335	32	3:15	69	0.0%	6373	0	38.2	01139178	14440/14470
1/24/01	Sanchez	9:05	40	100%	6373	24	10:45	46	0.0%	6414	0	40.2	01139178	14470/14485
1/24/01	Sanchez	1:25		70%	6414	21	3:05		0.0%	6450	0	36.8	01139178	14485/14517
1/25/01	Sanchez	10:10		100%	6450	39	11:45		0.0%	6488	0	37.9	01139178	14517/14544
*1/26/01	Sanchez	1:37	48	100%	6488	37	3:10	48	0.0%	6525	0	37.3	01139178	14544/14580
1/28/01	Babour	6:20	46	100%	6525	37	7:38	47	0.0%	6555	0	29.5	01139178	14580/14595
1/28/01	Babour	10:10	51	75%	6555	23	11:19	56	0.0%	6583	0	28.5	01139178	14595/14622
1/29/01	Sanchez	12:30	56	100%	6583	37	2:10	56	0.0%	6621	0	37.7	01139178	14622/14647
1/30/01	Sanchez	8:45	46	100%	6621	31	1:05	50	0.0%	6665	0	43.8	01139178	14647/14661
1/30/01	Sanchez	1:45	60	60%	6665	21	2:32	61	0.0%	6689	0	24.2	01139178	14661/14670
1/30/01	Sanchez	4:07	61	27%	6689	10	5:00	58	0.0%	6708	0	18.8	01139178	14670/14699
1/31/01	Sanchez	1:00	51	100%	6708	33	11:45	51	0.0%	6746	0	38.0	01139178	14699/14711
1/31/01	Sanchez	1:55	60	51%	6746	19	3:05	61	20.0%	6764	17	16.9	01139178	14711/
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														/
														/

Comments (Dated): 1/19/01&1/26/01 van driven down. 1/28-heater&lights on(6:20).

Vehicle Number	1
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Date	Driver	Start					End					Trip Dist.	AC meter#	AC kWh Start/End
		Time	Amb Temp	SOC	Odo	DTE	Time	Amb Temp	SOC	Odo	DTE			
2/1/01	Sanchez	11:00	61	100%	6764	37	12:36	63	0.0%	6804	0	40.0	01139878	14736/14748
2/1/01	Sanchez	2:56	65	60%	6804	20	16:05	66	0.0%	6836	0	31.9	01139878	14748/14776
2/2/01	Sanchez	9:50	56	100%	6836	38	11:32	62	0.0%	6876	0	40.0	01139878	14776/14798
2/2/01	Sanchez	3:47	69	100%	6876	39	5:00	67	0.0%	6911	0	35.1	01139878	14798/14832
2/4/01	Barbour	10:01	68	100%	6911	39	11:56	77	0.0%	6952	0	41.2	01139878	14832/14856
2/5/01	Sanchez	8:10	59	100%	6952	38	9:55	68	0.0%	6992	0	40.0	01139878	14856/14875
2/5/01	Sanchez	1:27	79	100%	6992	38			0.0%		0		01139878	14875/14876
2/6/01	Sanchez	2:45	63	99%	6993	27	4:17	60	0.0%	7032	0	38.8	01139878	14876/14901
2/7/01	Sanchez	8:00	49	100%	7032	38	9:22	49	0.0%	7071	0	38.8	01139878	14901/14920
2/7/01	Sanchez	1:10	56	100%	7071	36	2:25	57	0.0%	7111	0	40.1	01139878	14920/14946
2/8/01	Sanchez	8:00	40	100%	7111	37	9:35	47	0.0%	7151	0	40.5	01139878	14946/14963
2/8/01	Sanchez	1:05	55	80%	7151	30	2:00	55	49.0%	7171	18	19.6	01139878	14963/14964
2/8/01	Sanchez	2:15	55	55%	7171	18	3:00	56	0.0%	7189	0	18.6	01139878	14964/14990
2/9/01	Sanchez	9:47	48	100%	7189	38		52	0.0%	7229	0	40.1	01139878	14990/15022
2/10/01	Sanchez	12:00	50	100%	7229	38	2:00	52	0.0%	7269	0	40.0	01139878	15022/15046
2/11/01	Barbour	9:08	47	100%	7269	40	10:32	50	0.0%	7306	0	36.4	01139878	15046/15072
2/12/01	Sanchez	10:15	48	100%	7306	38	12:15	49	0.0%	7348	0	41.8	01139878	15072/15090
2/12/01	Sanchez	3:27	49	100%	7348	29	4:40	48	0.0%	7368	0	20.0	01139878	15090/15112
2/13/01	Sanchez	9:52	49	100%	7368	34	11:25	49	0.0%	7400	0	32.3	01139878	15112/15131
2/13/01	Sanchez	3:07	48	100%	7400	31	4:35	48	0.0%	7440	0	40.0	01139878	15131/15158
2/14/01	Sanchez	10:05	49	100%	7440	32	12:02	53	0.0%	7481	0	41.1	01139878	15158/15172
2/14/01	Sanchez	3:07	57	100%	7481	24	4:40	54	0.0%	7521	0	40.0	01139878	15172/15202
2/15/01	Sanchez	10:15	50	100%	7521	39	11:50	52	0.0%	7561	0	40.4	01139878	15202/15222
2/15/01	Sanchez	3:32	57	100%	7561	39	5:10	53	0.0%	7609	0	47.3	01139878	15222/15250
2/16/01	Sanchez	10:00	54	100%	7609	40	11:47	61	0.0%	7650	0	41.5	01139878	15250/15272

Comments: 2/5/01 van malfunction. 2/8/01 stopped drive to attend safety meeting 2:00pm.
 2/9/01 van driven down & discharged; put back on charge at 5:00pm; temp was 52. 2/11/01- heater on for 1st 20 miles.

Vehicle Number	1
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Date	Driver	Start					End					Trip Dist.	AC meter#	AC kWh Start/End
		Time	Amb Temp	SOC	Odo	DTE	Time	Amb Temp	SOC	Odo	DTE			
2/16/01	Sanchez	3:55	64	100%	7650	40	5:12	60	25.0%	7690	10	40.2	01139878	12572/15296
2/17/01	Barbour	7:15	47	100%	7690	40	8:31	51	0.0%	7724	0	33.5	01139878	15296/15321
2/18/01	Barbour	8:35	56	100%	7724	39	9:57	58	0.0%	7754	0	30.5	01139878	15321/15349
2/20/01	Sanchez	10:00	57	100%	7754	38	11:53	61	0.0%	7797	0	42.9	01139878	15349/15366
2/20/01	Sanchez	3:12	62	75%	7797	24	4:37	59	0.0%	7837	0	40.0	01139878	15366/15395
2/21/01	Sanchez	10:10	51	100%	7837	37	11:32	60	0.0%	7878	0	40.5	01139878	15395/15421
2/22/01	Sanchez	10:15	61	100%	7878	39	11:37	64	0.0%	7918	0	40.1	01139878	15421/15439
2/22/01	Sanchez	3:10	61	75%	7918	29	4:37	60	0.0%	7958	0	40.1	01139878	15439/15469
2/23/01	Sanchez	10:15	46	100%	7958	39	12:30	47	0.0%	8000	0	42.0	01139878	15469/15506
2/24/01	Sanchez	3:00	48	100%	8000	38	4:30	48	0.0%	8040	0	40.0	01139878	15506/15538
2/26/01	Sanchez	9:50	60	100%	8040	37	11:12	62	0.0%	8080	0	40.3	01139878	15538/15554
2/26/01	Sanchez	2:30	64	75%	8080	25	4:26	61	0.0%	8120	0	40.0	01139878	15554/15584
2/27/01	Sanchez	10:30	58	100%	8120	39	12:05	54	0.0%	8160	0	40.3	01139878	15584/15607
2/27/01	Sanchez	4:25	43	100%	8160	40	5:45	48	0.0%	8200	0	40.0	01139878	15607/15635
2/28/01	Sanchez	10:45	55	100%	8200	38	12:20	54	0.0%	8240	0	40.0	01139878	15635/15654
2/28/01	Sanchez	3:50	54	100%	8240	30	5:15	51	0.0%	8281	0	40.6	01139878	15654/15683
3/1/01	Jr Ruiz	11:30	55	100%	8281	40	1:15	51	0.0%	8322	0	41.0	01139878	15683/15710
3/2/01	Sanchez	10:55	55	100%	8322	38	11:51	64	49.0%	8346	38	23.7	01139878	15710/15724
3/2/01	Sanchez	3:30	60	100%	8346	38	5:10	58	0.0%	8386	0	40.6	01139878	15724/15749
3/3/01	Barbour	7:03	50	100%	8386	39	8:19	53	0.0%	8417	0	31.3	01139878	15749/15774
3/4/01	Barbour	8:22	55	100%	8417	38	9:49	57	0.0%	8455	0	37.6	01139878	15774/15799
3/5/01	Sanchez	1:00	65	100%	8455	33	11:30	69	0.0%	8493	0	38.0	01139878	15799/15817
3/5/01	Sanchez	3:00	64	94%	8493	30	4:30	62	0.0%	8535	0	42.2	01139878	15817/15845
3/6/01	Sanchez	10:10	61	100%	8535	39	12:30	64	0.0%	8574	0	39.4	01139878	15845/15865
3/6/01	Sanchez	4:15	61	100%	8574	38	5:45	58	0.0%	8614	0	40.4	01139878	15865/15893

Comments (Dated): 2/17 -heater on, 2/18-heater on, 2/23 driven down and left on with AC, Hlights, heater, and put back on charge at 4:30.
 3/2 incomplete drive due to ISO meeting, 3/3/01 heater on.
 3/4/01- intermittent heater use.

Vehicle Number	1
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Date	Driver	Start					End					Trip Dist.	AC meter#	AC kWh Start/End
		Time	Amb Temp	SOC	Odo	DTE	Time	Amb Temp	SOC	Odo	DTE			
3/7/01	Sanchez	9:45	56	100%	8614	39		58	0.0%	8654	2	40.0	011308606	15893/15910
3/7/01	Sanchez	3:05	63	95%	8654	35	4:40	61	0.0%	8695	0	40.3	011308606	15910/15940
3/8/01	Sanchez	10:20	66	100%	8695	40	11:45	67	0.0%	8735	0	40.4	011308606	15940/15959
3/8/01	Sanchez	3:30	68	91%	8735	32	4:50	66	0.0%	8775	0	40.0	011308606	15959/15988
3/9/01	Sanchez	10:20	61	100%	8775	40	12:10	63	0.0%	8817	3	42.3	011308606	15988/16019
3/10/01	Barbour	7:08	47	100%	8817	40	7:14	47	99.0%	8818	39	0.9	011308606	16019/16048
3/14/01	Sanchez	10:00	60	100%	8858	39	11:30	64	0.0%	8898	0	40.1	011308606	16048/16084
3/15/01	Sanchez	11:30	63	100%	8898	43	12:48	62	0.0%	8938	0	40.0	011308606	16084/16084
3/15/01	Sanchez	1:30	84	75%	9056	38	3:20	85	0.0%	9100	0	43.9	01712141	/483
3/20/01	Sanchez	11:40	80	100%	9100	44	1:10	82	0.0%	9140	0	40.2	01712141	483/486
3/20/01	Sanchez	3:45	81	70%	9140	23	5:00	79	0.0%	9171	0	30.5	01712141	486/490
3/21/01	Sanchez	9:50	64	100%	9171	40	11:55	73	0.0%	9211	0	40.0	01712141	490/493
3/21/01	Sanchez	3:00	75	75%	9211	25	9:25	72	0.0%	9251	0	40.1	01712141	493/498
3/22/01	Sanchez	10:00	58	100%	9251	0	12:20	58	0.0%	9291	0	40.2	01712141	498/501
3/23/01	Sanchez	10:00	66	70%	9291	29	11:21	66	0.0%	9326	0	34.5	01712141	501/507
2/24/01	Barbour	9:00	61	100%	9326	40	10:33	65	0.0%	9368	0	42.0	01712141	507/513
3/26/01	Barbour	9:10	65	100%	9368	39	11:02	69	0.0%	9415	0	47.1	01712141	513/516
3/26/01	Barbour	2:12	71	100%	9415	40	4:30	68	0.0%	9458	0	43.5	01712141	516/522
3/27/01	Barbour	2:35	75	100%	9458	45	4:18	73	0.0%	9503	0	44.8	01712141	522/526
3/28/01	Sanchez	10:15	64	100%	9503	42	12:15	68	0.0%	9546	0	42.7	01712141	526/529
3/28/01	Sanchez	3:15	73	70%	9546	30	4:35	71	0.0%	9586	0	40.3	01712141	529/534
3/29/01	Sanchez	10:15	67	100%	9586	41	12:11	72	0.0%	9626	0	40.1	01712141	534/536
3/29/01	Sanchez	3:00	73	75%	9626	30	4:53	70	0.0%	9666	0	40.1	01712141	536/542

Comments (Dated): 3/9/01 discharged with AC.Hlights left on. 3/10-heater on 3/10-vehicle lost power @.6 miles (returned to EVTC center)

Vehicle Number	1
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Date	Driver	Start					End					Trip Dist.	AC meter#	AC kWh Start/End
		Time	Amb Temp	SOC	Odo	DTE	Time	Amb Temp	SOC	Odo	DTE			
3/30/01	Sanchez	10:10	67	100%	9666	40	11:30	74	0.0%	9707	0	41.3	01715141	542/545
3/30/01	Sanchez	2:49	80	76%	9707	30	4:20	79	0.0%	9747	0	40.0	01715141	545/551
4/1/01	Sanchez	12:40	67	100%	9747	39	2:13	69	0.0%	9789	0	42.0	01715141	551/555
4/2/01	Sanchez	9:52	61	100%	9789	40	11:30	68	0.0%	9830	0	40.2	01715141	555/557
4/2/01	Sanchez	2:37	68	75%	9830	30	4:00	66	0.0%	9869	0	40.0	01715141	557/563
4/3/01	Sanchez	9:50	57	100%	9869	40	11:30	62	0.0%	9910	0	40.4	01715141	563/566
4/3/01	Sanchez	3:00	62	80%	9910	32	4:30		0.0%	9950	0	40.1	01715141	566/571
4/4/01	Sanchez	10:30	63	100%	9950	40	11:50	64	0.0%	9990	0	40.2	01715141	571/574
4/4/01	Sanchez	3:00	63	75%	9990	30	4:30	63	0.0%	10031	0	41.4	01715141	574/581
4/6/01	Sanchez	2:15	65	100%	10031	38	3:40	62	0.0%	10071	0	40.1	01715141	581/
4/10/01	Sanchez	10:00	55	100%	10144	43	11:55	57	0.0%	10184	0	40.0	01715141	/595
4/10/01	Sanchez	3:15	64	75%	10184	30	5:10	63	0.0%	10224	0	40.0	01715141	595/601
4/11/01	Sanchez	11:30	55	100%	10224	42	1:30	60	0.0%	10269	0	44.2	01715141	601/603
4/11/01	Sanchez	4:15	54	60%	10269	30	5:15	54	0.0%	10309	0	40.0	01715141	603/609
4/12/01	Sanchez	10:40	62	100%	10309	44	11:40	68	0.0%	10349	0	40.3	01715141	609/612
4/12/01	Sanchez	3:15	68	73%	10349	30	4:40	68	0.0%	10387	0	37.8	01715141	612/617
4/13/01	Sanchez	10:00	62	100%	10387	42	11:25	67	0.0%	10427	0	40.1	01715141	617/621
4/13/01	Sanchez	4:00	74	100%	10427	42	5:15	73	0.0%	10467	0	40.4	01715141	621/626
4/15/01	Sanchez	6:05	50	100%	10467	42	7:30	52	0.0%	10504	0	37.4	01715141	626/630
4/16/01	Sanchez	11:15	74	100%	10504	40	2:00	71	0.0%	10554	0	49.9	01715141	630/636
4/17/01	Sanchez	10:00	63	100%	10554	41	12:20	74	0.0%	10595	0	40.9	01715141	636/639
4/17/01	Sanchez	5:15	87	100%	10595	42	12:00	78	0.0%	10638	0	43.1	01715141	639/644
4/18/01	Sanchez	10:30	73	100%	10638	42	12:40	77	0.0%	10679	0	40.4	01715141	644/646
4/18/01	Sanchez	3:00	76	74%	10679	31	4:40	73	0.0%	10719	0	40.0	01715141	646

Comments (Dated):

Vehicle Number	1
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Date	Driver	Start					End					Trip Dist.	AC meter#	AC kWh Start/End
		Time	Amb Temp	SOC	Odo	DTE	Time	Amb Temp	SOC	Odo	DTE			
6/1/01	Sanchez	11:00	73	100%	13483	36	12:20	76	0.0%	12777	0	40.5	01712141	858/861
6/1/01	Sanchez	3:55	80	80%	12777	30	5:30	88	0.0%	12818	0	40.1	01712141	861/866
6/2/01	Barbour	7:50	65	100%	12818	35	9:20	68	0.0%	12858	0	40.0	01712141	866/869
6/3/01	Barbour	9:05	66	100%	12858	38	10:35	69	0.0%	12895	0	37.8	01712141	869/
6/4/01	Sanchez	9:00	68	100%	12895	32	10:20	73	0.0%	12934	0	39.0	01712141	/877
6/4/01	Sanchez	2:40	75	100%	12934	32	4:10	78	0.0%	12974	0	39.6	01712141	877/881
6/5/01	Sanchez	11:00	73	100%	12974	36	12:33	73	0.0%	13014	0	40.0	01712141	881/
6/6/01	Sanchez	10:30	72	100%	13014	36	11:50	78	0.0%	13054	0	40.5	01712141	/894
6/6/01	Sanchez	3:05	85	75%	13054	27	4:30	84	0.0%	13092	0	37.7	01712141	894/898
6/7/01	Sanchez	10:21	78	100%	13092	38	11:37	82	0.0%	13130	0	38.3	01712141	898/902
6/7/01	Sanchez	4:45	87	100%	13130	36	6:15	87	0.0%	13170	0	39.9	01712141	902/
6/8/01	Sanchez	10:55	81	100%	13170	40	4:30	81	0.0%	13223	0	53.4	01712141	/908
6/9/01	Barbour	9:00	75	100%	13223	40	10:34	80	0.0%	13266	0	42.1	01712141	908/912
6/10/01	Barbour	9:05	76	100%	13266	41	10:56	81	0.0%	13311	0	45.3	01712141	912/916
6/11/01	Sanchez	11:20	78	100%	13311	41	12:30	80	0.0%	13350	0	39.7	01712141	916/919
6/11/01	Sanchez	4:00	85	100%	13350	41	5:30	93	0.0%	13391	0	40.2	01712141	919/924
6/12/01	Sanchez	9:30	70	100%	13391	42	11:20	68	0.0%	13430	0	39.3	01712141	924/927
6/12/01	Sanchez	2:40	73	756%	13430	35	4:30	70	0.0%	13469	0	39.4	01712141	927/932
6/13/01	Sanchez	9:50	62	100%	13469	41	11:35	71	0.0%	13509	0	39.9	01712141	932/935
6/13/01	Sanchez	3:00	80	75%	13509	34	4:30	80	0.0%	13549	0	40.1	01712141	935/940
6/14/01	Sanchez	11:00	83	100%	13549	41	12:20	87	0.0%	13590	0	41.0	01712141	940/942
6/14/01	Sanchez	3:30	94	75%	13590	32	4:50	91	0.0%	13629	0	38.2	01712141	942/

Comments (Dated):

Vehicle Number	1
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Date	Driver	Start					End					Trip Dist.	AC meter#	AC kWh Star/End
		Time	Amb Temp	SOC	Odo	DTE	Time	Amb Temp	SOC	Odo	DTE			
6/30/01	Barbour	8:15	78	100%	14593	42	10:02	82	0.0%	14637	0	43.9	01139878	1047/1051
7/1/01	Barbour	8:07	74	100%	14637	45	9:59	83	0.0%	14683	0	45.8	01139878	1051/1056
7/2/01	Sanchez	10:30	82	100%	14683	44	11:40	91	0.0%	14723	0	40.5	01139878	1056/1059
7/2/01	Sanchez	3:15	100	75%	14723	39	4:30	98	0.0%	14763	0	40.2	01139878	1059/1064
7/3/01	Sanchez	11:00	92	100%	14763	43	12:30	92	0.0%	14806	0	40.1	01139878	1064/1069
7/5/01	Sanchez	11:00	71	100%	14806	43	12:24	71	0.0%	14841	0	34.9	01139878	1069/1072
7/5/01	Sanchez	4:10	97	100%	14841	39	5:45	92	0.0%	14881	0	40.4	01139878	1072/1074
7/6/01	Sanchez	10:50	80	100%	14881	43	12:10	90	0.0%	14921	0	40.0	01139878	1074/1079
7/6/01	Sanchez	3:15	90	74%	14921	39	5:00	92	0.0%	14961	0	39.7	01139878	1079/1084
7/7/01	Barbour	7:40	76	100%	14961	41	9:31	81	0.0%	15004	0	42.8	01139878	1084/1088
7/8/01	Barbour	10:38	83	100%	15004	29	12:15	87	0.0%	15044	0	40.2	01139878	1088/1096
7/9/01	Sanchez	10:20	77	100%	15044	40	11:37	80	0.0%	15081	0	37.6	01139878	1096/1099
7/10/01	Sanchez	10:30	75	100%	15081	39	12:25	77	0.0%	15122	0	40.9	01139878	1099/1104
7/10/01	Sanchez	1:30	85	80%	15122	40	5:30	95	0.0%	15162	0	40.1	01139878	1104/1107
7/11/01	Sanchez	10:20	70	100%	15162	40	12:30	80	0.0%	15208	0	45.2	01139878	1107/1112
7/11/01	Sanchez	3:45	86	60%	15208	38	5:15	80	0.0%	15248	0	40.0	01139878	1112/1116
7/12/01	Sanchez	1:30	87	100%	15248	41	2:54	90	0.0%	15288	0	40.6	01139878	1116/
7/13/01	Sanchez	10:20	81	100%	15288	28	12:00	85	0.0%	15328	0	39.6	01139878	
7/13/01	Barbour	5:11	90	100%	15328	42	6:23	88	52.0%	15353	24	25.1	01139878	1120/1123
7/15/01	Barbour	7:06	67	100%	15353	42	8:42	68	0.0%	15395	0	42.1	01139878	1123/1126
7/15/01	Barbour	11:45	78	80%	15395	36	1:20	84	0.0%	15433	0	37.6	01139878	1126/1131
7/17/01	Sanchez	8:30	69	100%	15433	42	10:25	74	0.0%	15470	0	37.5	01139878	1131/1133
7/17/01	Sanchez	1:30	81	75%	15470	30	3:25	83	0.0%	15510	0	40.2	01139878	1133/
7/18/01	Sanchez	9:00	70	100%	15510	41	10:45	75	0.0%	15550	0	40.3	01139878	
7/18/01	Sanchez	1:45	84	74%	15550	30	3:15	86	0.0%	15591	0	40.3	01139878	

Comments (Dated):

Vehicle Number	1
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Date	Driver	Start					End					Trip Dist.	AC meter#	AC kWh Star/End
		Time	Amb Temp	SOC	Odo	DTE	Time	Amb Temp	SOC	Odo	DTE			
8/17/01	Sanchez	10:15	90	100%	17467	42	11:30	90	0.0%	17506	0	39.0	01712141	/1341
8/17/01	Sanchez	3:00	96	50%	17506	20	4:30	96	0.0%	17536	0	30.0	01712141	1341/1348
									0.0%		0		01712141	1348/1353
8/18/01	Barbour	10:13	86	100%	17536	42	12:10	93	0.0%	17585	0	49.1	01712141	1353/1356
8/19/01	Sanchez	8:10	72	100%	17585	43	10:10	80	0.0%	17625	0	40.0	01712141	1356/1361
8/19/01	Sanchez	1:10	88	74%	17625	30	3:00	89	0.0%	17666	0	40.8	01712141	1361/1363
8/20/01	Sanchez	10:35	73	10%	17666	40	12:40	80	0.0%	17708	0	40.1	01712141	1363/1369
8/20/01	Sanchez	3:30	83	74%	17708	34	5:15	82	0.0%	17746	0	40.0	01712141	1369/1371
8/21/01	Sanchez	10:25	73	100%	17746	44	12:30	75	0.0%	17787	0	41.5	01712141	1371/1376
8/22/01	Sanchez	3:10	82	60%	17787	24	5:00	81	0.0%	17823	0	36.1	01712141	1376/1377
8/23/01	Barbour	6:26	62	100%	17823	42	7:32	65	0.0%	17845	0	21.2	01712141	1377/1380
8/23/01	Sanchez	8:00	61	74%	17845	32	10:00	70	0.0%	17885	0	40.0	01712141	1380/1386
8/23/01	Sanchez	1:30	81	66%	17885	30	3:20	85	0.0%	17924	0	39.8	01712141	1386/1390
8/24/01	Sanchez	10:30	77	100%	17924	42	11:50	85	0.0%	17964	0	40.0	01712141	1390/1395
8/24/01	Sanchez	4:10	90	100%	17964	41	5:40	83	0.0%	18004	0	39.8	01712141	1395/1399
8/25/01	Barbour	11:16	85	100%	18004	43	1:14	88	0.0%	18049	0	40.0	01712141	1399/1403
8/26/01	Barbour	8:23	73	100%	18049	43	10:21	91	0.0%	18095	0	40.1	01712141	1403/1406
8/27/01	Sanchez	10:10	80	100%	18095	43	11:30	81	0.0%	18135	0	44.7	01712141	1406/1411
8/27/01	Sanchez	3:55	76	93%	18135	37		87	0.0%	18175	0	45.7	01712141	1411/1415
8/28/01	Sanchez	1:00	79	100%	18175	42	11:36	84	0.0%	18215	0	40.1	01712141	1415/1420
8/28/01	Sanchez	3:20	89	75%	18215	31	4:30	85	0.0%	18255	0	40.0	01712141	1420/1423
8/29/01	Sanchez	8:00	65	100%	18255	41	9:50	72	0.0%	18294	0	40.0	01712141	1423/1428
8/29/01	Sanchez	12:00	80	74%	18294	29	2:08	81	0.0%	18334	0	39.8	01712141	1428/1432
8/30/01	Sanchez	10:30	70	100%	18334	41	11:45	76	0.0%	18375	0	40.6	01712141	1432/
8/30/01	Sanchez	3:30	86	98%	18375	39	5:00	85	0.0%	18415	0	40.1	01712141	

Comments (Dated):

Vehicle Number	1
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Date	Driver	Start					End					Trip Dist.	AC meter#	AC kWh Start/End
		Time	Amb Temp	SOC	Odo	DTE	Time	Amb Temp	SOC	Odo	DTE			
8/31/01	Sanchez	10:35	75	100%	18415	42							01712141	/1440
8/31/01	Barbour	4:32	85	90%	18456	38	6:00	82	0.0%	18486	0	29.6	01712141	1440/1444
9/1/01	Barbour	10:58	81	100%	18486	42	1:00	86	0.0%	18526	0	40.1	01712141	1444/1415
9/5/01	Sanchez	8:45	74	100%	18526	42	9:30	76	0.0%	18536	0	10.4	01712141	1415/1451
9/5/01	Sanchez	2:15	90	100%	18536	47	4:10	87	0.0%	18576	0	40.5	01712141	1451/1456
9/6/01	Sanchez	10:35	76	100%	18576	42	12:00	76	0.0%	18614	0	37.9	01712141	1456/1459
9/6/01	Sanchez	3:00	81	74%	18614	27	4:40	80	0.0%	18654	0	40.0	01712141	1459/1464
9/7/01	Sanchez	10:20	72	100%	18654	40	11:40	71	0.0%	18695	0	40.2	01712141	1464/1468
9/7/01	Sanchez	3:40	81	100%	18695	39	5:00	80	0.0%	18735	0	40.2	01712141	1468/1472
9/8/01	Barbour	9:12	71	100%	18735	40	10:52	74	0.0%	18777	0	42.5	01712141	1472/1475
9/8/01	Barbour	1:56	78	90%	18777	38	3:41	81	0.0%	18819	0	42.3	01712141	1475/1480
9/9/01	Barbour	7:05	63	100%	18819	42	8:54	65	0.0%	18863	0	43.9	01712141	1480/1483
9/9/01	Barbour	12:01	74	75%	18863	32	1:34	77	0.0%	18898	0	34.7	01712141	1483/1487
9/10/01	Sanchez	10:20	73	100%	18898	45	12:00	72	0.0%	18936	0	37.8	01712141	1487/1492
9/10/01	Sanchez	4:00	80	100%	18936	40	4:45	82	0.0%	18947	0	11.8	01712141	1492/1493
9/12/01	Sanchez	10:50	75	100%	18947	41	11:45	75	0.0%	18967	0	20.1	01712141	1493/1496
9/13/01	Sanchez	10:00	72	80%	18967	40	11:55	81	0.0%	19007	0	39.7	01712141	1496/1499
9/13/01	Sanchez	3:30	88	100%	19007	41	5:00	82	0.0%	19047	0	39.6	01712141	1499/1504
9/14/01	Sanchez	10:15	80	100%	19047	42	12:06	83	0.0%	19089	0	42.2	01712141	1504/1507
9/17/01	Sanchez	10:45	70	100%	19089	42	3:10	75	0.0%	19115	0	26.0	01712141	1507/1510
9/18/01	Barbour	1:25	80	100%	19115	40	3:05	82	0.0%	19157	0	41.7	01712141	1510/1514
9/19/01	Sanchez	4:34	82	25%	19157	10	5:32	79	0.0%	19175	0	18.5	01712141	1514/1519
9/19/01	Barbour	9:30	67	100%	19175	42	10:15	71	0.0%	19219	0	44.3	01712141	1519/
9/20/01	Barbour	6:35	60	100%	19262	42	7:33	62	55.0%	19284	21	22.1	01712141	1527/

Comments (Dated):

Sep/17 Postal Van #1 discharged rapidly at 25 miles and stopped at 26 miles around 12:10pm. Van was towed by Haddicks back to EVTC.

Vehicle Number	1
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Date	Driver	Start					End					Trip Dist.	AC meter#	AC kWh Start/End
		Time	Amb Temp	SOC	Odo	DTE	Time	Amb Temp	SOC	Odo	DTE			
11/6/01	Sanchez	4:15	70	100%	21225	40	5:30	65	0.0%	21265	0	40.0	01712141	1720/1723
11/7/01	Sanchez	8:07	64	100%	21265	40	9:45	64	0.0%	21306	0	41.0	01712141	1723/1728
11/8/01	Sanchez	8:15	68	100%	21306	42	10:00	73	0.0%	21339	0	33.1	01712141	1728/1713
11/8/01	Sanchez	1:00	82	100%	21339	39	4:10	82	0.0%	21379	0	39.9	01712141	1713/1736
11/9/01	Sanchez	9:00	70	100%	21379	42	10:40	73	0.0%	21419	0	40.0	01712141	1736/1740
11/9/01	Sanchez	1:40	75	75%	21419	30	3:05	75	0.0%	21458	0	39.1	01712141	1740/1743
11/14/01	Sanchez	8:40	60	100%	21458	43	10:20	65	0.0%	21485	0	27.5	01712141	1743/1751
11/14/01	Sanchez	2:00	70	100%	21485	38	3:25	72.2	0.0%	21525	0	40.0	01712141	1751/1753
11/15/01	Sanchez	9:00	70	100%	21525	40	1:00	73	0.0%	21562	0	37.1	01712141	1753/1757
11/16/01	Sanchez	8:24	65	100%	21562	42	10:00	65	0.0%	21599	0	36.7	01712141	1757/1761
11/16/01	Sanchez	2:00	75	100%	21599	41	3:30	75	0.0%	21639	0	40.1	01712141	1761/1765
11/19/01	Sanchez	9:30	70	100%	21639	41	11:00	72	0.0%	21671	0	32.0	01712141	1765/1770
11/19/01	Sanchez	2:00	79	100%	21671	40	3:15	78	0.0%	21708	0	36.6	01712141	1770/1773
11/21/01	Sanchez	9:30	72	100%	21708	42	11:00	74	0.0%	21748	0	40.0	01712141	1773/1777
11/21/01	Sanchez	10:00	65	100%	21748	42	11:30	68	0.0%	21775	0	27.7	01712141	1777/1781
11/21/01	Sanchez	3:05	70	100%	21775	40	5:00	65	0.0%	21815	0	40.0	01712141	1781/1784
1126/01	Sanchez	10:00	60	100%	21815	41	11:00	58	0.0%	21840	0	24.1	01712141	1784/1793
11/26/01	Sanchez	2:00	63	100%	21840	32	3:40	63	0.0%	21876	0	36.6	01712141	1793/1795
11/27/01	Sanchez	9:30	59	100%	21876	40	10:55	61	0.0%	21908	0	31.8	01712141	1795/1799
11/27/01	Sanchez	2:50	60	95%	21908	32	3:10	63	0.0%	21940	0	32.0	01712141	1799/1801
11/28/01	Sanchez	9:15	55	100%	21940	40	10:40	60	0.0%	21975	0	34.7	01712141	1801/1806
11/28/01	Sanchez	2:45	63	77%	21975	31	3:00	63	0.0%	22012	0	38.0	01712141	1806/1808
11/29/01	Sanchez	9:30	60	100%	22012	41	11:30	60	0.0%	22043	0	31.0	01712141	1808/1814

Comments (Dated):

Vehicle Number	2
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Date	Driver	Start					End					Trip Dist.	AC meter#	AC kWh Start/End
		Time	Amb Temp	SOC	Odo	DTE	Time	Amb Temp	SOC	Odo	DTE			
8/30/00	Sanchez	1:25	78.1	100%	143	42	221	82.8	25.0%	164	15	21.1	01712275	722/725
8/31/00	Sanchez	1:20	77.4	100%	164	42	3:05	79.7	0.0%	210	0	46.0	01712275	725/730
9/1/00	Sanchez	9:05	68.1	100%	210	42	10:42	70.7	0.0%	254	0	43.9	01712275	730/739
9/5/00	Sanchez	1:05	85.1	100%	254	42	0:00	89.6	0.0%	298	0	44.1	01712275	739/753
9/6/00	Sanchez	9:30	77.2	100%	298	40	1:20				32.6			/
9/9/00	Barbour	9:10	74.8	100%	331	44	11:00	85.8	0.0%	372	7	41.4	01308606	753/781
9/10/00	Barbour	8:35	65.8	100%	372	44	10:20	73.4	0.0%	415	6	42.7	01308606	781/889
9/14/00	Sanchez	1:50	93.7	100%	518	43	3:30	96.4	0.0%	559	0	40.8	01308606	889/918
9/15/00	Sanchez	9:30	74.9	100%	559	43	10:10	86.4	0.0%	601	0	42.2	01308606	918/936
9/15/00	Sanchez	1:50	98	90%	601	31	3:10	96	0.0%	634	0	33.5	01308606	936/965
9/16/00	Barbour	6:50	72.7	100%	634	43	8:40	78.9	2.0%	675	6	40.8	01308606	965/993
9/17/00	Barbour	6:15	72.8	100%	675	44	8:06	75.8	0.0%	720	0	45.0	01308606	993/1010
9/17/00	Barbour	11:20	85.6	75%	720	32	12:25	94.3	0.0%	748	2	27.9	01308606	1010/
9/18/00	Diaz	8:50	87	100%	748	43	10:26	89		789	7	40.7	01308606	/
9/18/00	Diaz	2:00	9:10	100%	789	41	4:08	92.3	0.0%	830	1	40.6	01308606	/
9/19/00	Diaz	9:00	85.4	100%	830	43	10:26	87.3	0.0%	868	3	38.4	01308606	/
9/19/00	Diaz	2:40	92.1	100%	868	41	4:17	91	2.0%	906	7	37.8	01308606	/
9/20/00	Diaz	8:31	80	100%	906	43	10:15	82.6	2.0%	944	7	38.4	01308606	/
9/20/00	Diaz	2:00	85.4	100%	944	40	3:50	84.8	2.0%	982	7	38.4	01308606	/
9/21/00	Diaz	8:40	77	100%	982	43	10:30	82.3	0.0%	1020	6	38.6	01308606	/1204
9/21/00	Diaz	2:40	71	100%	1020	42	5:15	71.4	8.0%	1061	8	40.8	01308606	1204/1238
9/23/00	Barbour	11:30	75.9	100%	1061	44	1:25	77.1	0.0%	1105	0	43.8	01308606	1238/1265
9/24/00	Barbour	6:55	56.1	100%	1105	45	8:28	63.7	0.0%	1146	0	40.6	01308606	1265/
													01308606	/
														/

Comments (Dated): 9-11-00 steering wheel became hard when car went into power limit. Car was charged. 9-12-00 steering was still hard, no power steering, power steering pump replaced and high voltage fuse for same replaced. 9-24-00 vehicle range depleted rapidly after DTE reached 10. Vehicle went into power limit mode.

Vehicle Number	2
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Date	Driver	Start					End					Trip Dist.	AC meter#	AC kWh Start/End
		Time	Amb Temp	SOC	Odo	DTE	Time	Amb Temp	SOC	Odo	DTE			
9/25/00	Sanchez	1:00	86.5	100%	1146	43	2:59	100	0.0%	1187	5	41.3	01308606	1295/
9/26/00	Diaz	2:00	87.9	100%	1187	43	3:45		9.0%	1223	8	35.8	01308606	/1347
9/27/00	Sanchez	10:40	73.3	100%	1223	43	1:12	72.9	0.0%	1263	0	40.6	01308606	1347 /1378
9/28/00	Sanchez	3:37	84	100%	1263	60	4:14	72	25.0%	1277	25	13.5	01308606	1378 /1391
9/28/00	Sanchez	8:20	68	100%	1277	40	10:20	72.1	0.0%	1318	0	41.6	01308606	1391/1421
9/30/00	Barbour	8:00	63.1	100%	1318	40	9:48	64.6	0.0%	1358	2	40.0	01308606	1421/1450
10/1/00	Barbour	10:00	71.6	100%	1358	41	11:28	75.7	0.0%	1399	0	40.6	01308606	1450/1478
10/2/00	Sanchez	1:30	82.4	100%	1399	42	4:20	87.8	0.0%	1434	0	35.5	01308606	1478/1515
10/5/00	Ruiz	11:00	22.5	100%	1434	42	12:00	77.7	49.0%	1455	20	21.0	01308606	1515/
10/5/00	Ruiz	1:30	81	49%	1455	19	2:00	82.7	0.0%	1469	1	34.9	01308606	1514/1538
10/7/00	Barbour	7:30	64.3	100%	1469	40	9:05	66.9	0.0%	1503	0	34.0	01308606	1538/
10/10/00	Ruiz	3:35		100%	1503	38	4:35		48.0%	1524	18	21.1	01308606	1580/
10/11/00	Ruiz	4:00		100%	1524	38	4:55		47.0%	1545	18	21.1	01308606	1599/1545
10/12/00	Barbour	8:40	61.2	100%	1545	37	10:15	63.3	0.0%	1584	0	38.5	01308606	1545/1642
10/13/00	Sanchez	2:00	82.3	100%	1584	37	2:47	84.3	45.0%	1605	15	21.3	01308606	1642/1657
10/15/00	Barbour	8:40	61.7	100%	1605	37	10:39	66.9	0.0%	1652	0	47.3	01308606	1657/1686
10/16/00	Sanchez	8:20	60.4	100%	1652	40	9:47	73	0.0%	1686	0	33.6	01308606	1686/1701
10/16/00	Sanchez	12:35	92.1	75%	1686	30	1:45	89.1	1.0%	1717	2	31.1	01308606	1701/1728
10/17/00	Sanchez	10:25	87.4	100%	1717	40	11:40	88.2	0.0%	1752	2	34.8	01308606	1728/1755
10/18/00	Sanchez	12:40	71.6	100%	1752	37	2:15	73.8	1.0%	1786	4	34.3	01308606	1755/1780
10/19/00	Sanchez	11:10	68	100%	1786	37	14:15	81	0.0%	1823	0	36.8	01308606	1780/1798
10/19/00	Sanchez	4:20	85	80%	1823	38	5:21	78	48.0%	1841	17	18.0	01308606	1798/1816
10/20/00	Sanchez	10:15	84.7	100%	1841	37	11:40	77.9	0.0%	1876	0	34.7	01308606	1816/1835
10/20/00	Sanchez	3:10	84.7	100%	1876	31	4:08	80	15.0%	1897	0	21.6	01308606	1835/1855
10/21/00	Barbour	9:48	65.3	100%	1897	35	11:31	70.9	0.0%	1938	0	40.6	01308606	1855/1891

Comments (Dated): POWER LIMIT ON @27.8(1017)

Vehicle Number	2
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Date	Driver	Start					End					Trip Dist.	AC meter#	AC kWh Start/End
		Time	Amb Temp	SOC	Odo	DTE	Time	Amb Temp	SOC	Odo	DTE			
11/27/00	Neil	4:25	76	100%	3312	39	5:30	60	35.0%	3335	17	22.4	01308606	/2877
11/28/00	Sanchez	9:30	65.9	100%	3335	32	11:21	72.7	0.0%	3375	0	40.7	01308606	2877/2896
11/28/00	Sanchez	2:55	74.4	75%	3375	29	4:21	70.5	0.0%	3416	0	40.2	01308606	2896/2927
11/29/00	Sanchez	10:40	60.4	100%	3416	39	12:00	64.7	0.0%	3456	0	39.0	01308606	2927/2947
11/29/00	Sanchez	3:35	67	100%	3455	32	5:04	64	0.0%	3495	0	40.1	01308606	2947/2977
11/30/00	Sanchez	10:45	64	100%	3495	34	11:45	66	0.0%	3531	0	35.7	01308606	2977/2998
11/30/00	Sanchez	3:55	68.5	100%	3531	31	5:10	65.1	0.0%	3570	0	40.0	01308606	2998/3026
12/1/00	Sanchez	10:45	63.3	100%	3570	32	12:28	66.9	0.0%	3613	0	42.9	01308606	3026/3068
12/3/00	Barbour	8:25	58.7	100%	3613	37	9:46	62.2	7.0%	3643	0	29.3	01308606	3068/3093
12/4/00	Sanchez	11:30	73	100%	3643	32	1:30	75.7	0.0%	3683	0	40.1	01308606	3093/3105
12/4/00	Sanchez	3:40	75.1	60%	3683	20	4:30	71	0.0%	3710	0	27.0	01308606	3105/3134
12/5/00	Sanchez	10:35	73	100%	3710	30	12:05	75.5	0.0%	3751	0	41.1	01308606	3134/3152
12/5/00	Sanchez	3:30	77.6	75%	3751	27	4:45	73.5	0.0%	3791	0	40.3	01308606	3152/3182
12/6/00	Sanchez	8:45		100%	3791	31	10:50	69.3	0.0%	3833	0	41.4	01308606	3182/3203
12/6/00	Sanchez	3:00	70.2	100%	3833	30	4:05	69.6	0.0%	3873	0	40.0	01308606	3203/3231
12/7/00	Sanchez	8:15	63.8	100%	3873	30	9:47	67.3	0.0%	3914	0	40.9	01308606	3231/3254
12/7/00	Sanchez	3:45		100%	3914	31	4:40	70.9	50.0%	3935	0	21.9	01308606	3254/3272
12/8/00	Sanchez	10:05	62	100%	3935	30	11:48	62.1	0.0%	3978	0	42.6	01308606	3272/3274
12/8/00	Sanchez	12:00	62.6	0%	3978	0	4:25	61.2	0.0%	3984	0	5.4	01308606	3274/3312
12/9/00	Barbour	10:10	57.5	100%	3984	32	11:37	58.1	0.0%	4021	4	37.3	01308606	3312/3339
12/10/00	Barbour	8:35	53.6	100%	4021	38	10:04	55.9	0.0%	4058	0	37.4	01308606	3339/3369
12/11/00	Sanchez	10:35	60	100%	4058	32	11:00	60	77.0%	4067	30	8.9	01308606	3369/3369
12/12/00	Sanchez	9:30	62.2	73%	4067	29	10:40	59.1	0.0%	4094	0	27.2	01308606	3369/3379
12/12/00	Sanchez	12:58	69	50%	4094	17	2:00	63.2	0.0%	4124	0	29.9	01308606	3379/3388
12/12/00	Sanchez	3:40	61	30%	4124	15	4:22	61.1	0.0%	4139	0	15.5	01308606	3388/3420

Comments (Dated): *12/12/00 took the van down and left on. 12/3 power limit on at 27.6 miles-vehicle towed to EVTC .
 ON 12-12-00 charger "Service Required" light came on. Jr. Ruiz reset the fuse box by turning it off and on. Charger is now working normal (F. Sa

Vehicle Number	2
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Date	Driver	Start					End					Trip Dist.	AC meter#	AC kWh Start/End
		Time	Amb Temp	SOC	Odo	DTE	Time	Amb Temp	SOC	Odo	DTE			
12/13/00	Sanchez	10:20	63.2	100%	4139	39	12:00	59.6	0.0%	4180	0	40.0	01308606	3420/3438
12/13/00	Sanchez	3:10	64	77%	4180	30	4:15	62	47.0%	4204	18	23.7	01308606	3438/3459
12/14/00	Sanchez	10:10	61	100%	4204	38	12:00	61.2	0.0%	4248	0	44.5	01308606	3490/3494
12/15/00	Sanchez	9:50	62	100%	4248	38	1:35	72	0.0%	4290	0	41.6	01308606	3494/3538
12/18/00	Sanchez	2:20	74	100%	4290	38	4:20	70	0.0%	4335	0	45.3	01308606	3538/3565
12/18/00	Sanchez	3:40	71.5	100%	4335	40	4:15	71.9	0.0%	4345	0	10.4	01308606	3565/3576
12/19/00	Sanchez	10:00	63.8	100%	4345	39	11:40	67.5	0.0%	4387	0	41.2	01308606	3576/3598
12/19/00	Sanchez	3:50	70.1	100%	4387	37	5:37	67.5	15.0%	4427	8	40.6	01308606	3598/3631
12/20/00	Sanchez	9:50	65	100%	4427	39	4:40	70.1	0.0%	4468	3	41.2	01308606	3631/3654
12/20/00	Sanchez	4:50		100%	4468	38	5:37	69	1.0%	4509	8	41.2	01308606	3654/3684
12/21/00	Sanchez	10:25	6.12	100%	4509	38	11:58	65.7	0.0%	4551	5	41.1	01308606	3684/3713
12/23/00	Barbour	6:40	49.6	100%	4551	38	8:04	54.6	0.0%	4583	0	32.4	01308606	3713/3725
12/23/00	Barbour	10:22	61.4	65%	4583	22	11:18	63.3	0.0%	4610	0	26.6	01308606	3725/3770
12/26/00	Sanchez	10:10	62	100%	4610	39	12:00	65.8	0.0%	4648	0	38.8	01308606	3770/3791
12/26/00	Sanchez	4:15	67.8	100%	4648	36	5:00	66.9	60.0%	4665	25	17.1	01308606	3791/3485
12/27/00	Sanchez	11:00	64	100%	4665	38	12:39	69.5	0.0%	4707	0	41.7	01308606	3485/3836
12/27/00	Sanchez	3:08			4707		3:08						01308606	3836/3836
12/28/00	Sanchez	9:55	66.5	100%	4707	39	11:25	67.9	0.0%	4748	0	41.0	01308606	3836/3855
12/28/00	Sanchez	3:00	63	99%	4748	31	4:38	69	0.0%	4789	0	41.0	01308606	3855/3885
12/29/00	Sanchez	10:45	69.1	100%	4789	39	12:00	82		4815		26.2	01308606	3855/3925
1/2/01	Sanchez	9:40	64	100%	4815	39	11:45	74.4	0.0%	4854	0	38.4	01308606	3925/3957
1/3/01	Sanchez	10:35	72	100%	4854	39	12:10	74.1	0.0%	4895	3	41.1	01308606	3957/3973
1/3/01	Sanchez	3:35	76.8	75%	4895	23	4:50	72.4	23.0%	4923	9	28.1	01308606	3973/4001
1/4/01	Sanchez	10:12	68.5	100%	4923	37	11:13	72.6	48.0%	4945	18	22.2	01308606	4001/4010
1/4/01	Sanchez	12:52	73.8	80%	4945	30	2:00	74.9	48.0%	4966	17	21.5	01308606	4010/4032

12-15-00 van driven down to power limit then left on with Hlights, fan left on. Put back on charge at 4:30.

12-23-00 HEATER ON DISCHARGED ON 12-26-00. (1-2-01 DISCHARGED AT 11:45 TO 4:15)

Vehicle Number	2
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Date	Driver	Start					End					Trip Dist.	AC meter#	AC kWh Start/End
		Time	Amb Temp	SOC	Odo	DTE	Time	Amb Temp	SOC	Odo	DTE			
1/5/01	Sanchez	10:31	65	100%	4956	35	12:11	67	0.0%	5006	0	39.8	01308606	4032/4066
1/6/01	Barbour	6:05	51	100%	5006	40	7:37	55	0.0%	5048	0	42.0	01308606	4066/4081
1/6/01	Barbour	10:25	61	60%	5048	22	11:46	66	0.0%	5076	0	27.4	01308606	4081/4121
1/8/01	Sanchez	9:25	43	100%	5076	39			0.0%	5111	0	35.5	01308606	4121/
1/9/01	Sanchez	9:20	64	100%	5111	39	10:53		0.0%	5148	0	37.3	01308606	4148/4168
1/9/01	Sanchez	2:35	63.8	100%	5148	30	4:10	62	0.0%	5179	0	30.4	01308606	4168/4192
1/10/01	Sanchez	10:20	50	100%	5179	33	11:47	52	0.0%	5215	0	36.0	01308606	4192/4230
1/12/01	Sanchez	9:15	47	100%	5215	37	11:45	48	0.0%	5249	0	34.1	01308606	4230/4267
1/13/01	Sanchez	8:10	51	100%	5249	36	9:55	53	0.0%	5292	0	42.3	01308606	4267/4297
1/14/01	Barbour	5:45	44	100%	5292	36	6:54	50	0.0%	5323	0	31.8	01308606	4297/4311
1/14/01	Barbour	10:20	45	60%	5323	20	12:12	64	0.0%	5363	0	40.0	01308606	4311/4326
1/14/01	Sanchez	3:00	63	63%	5363	23	4:00	60	0.0%	5397	0	33.3	01308606	4326/4362
1/15/01	Sanchez	9:55		100%	5397	39	11:33	57	2.0%	5438	3	41.2	01308606	4362/4381
1/15/01	Sanchez	3:09	57	100%	5438	36	4:30	50	3.0%	5478	3	40.0	01308606	4381/4412
1/16/01	Sanchez	9:57	53	100%	5478	40	11:36	58	0.0%	5519	3	41.0	01308606	4412/4432
1/16/01	Sanchez	3:20	52	100%	5519	36	4:15	50	53.0%	5538	21	19.3	01308606	4432/4451
1/17/01	Sanchez	9:45	71	100%	5538	38	11:37	76	0.0%	5579	0	41.2	01308606	4451/4466
1/17/01	Sanchez	2:30	68	75%	5579	28	4:03	65	0.0%	5620	0	40.6	01308606	4466/45/00
1/18/01	Sanchez	8:30	43	100%	5620	40	10:00	59	0.0%	5662	0	42.1	01308606	4500/4508
1/18/01	Sanchez	11:35	63	90%	5662	15	12:41	64	0.0%	5689	0	27.0	01308606	4508/4514
1/18/01	Sanchez	1:55	64	25%	5689	13	2:30	63	0.0%	5702	0	12.5	01308606	4514/4548
1/19/01	Sanchez	8:10	56	100%	5702	40	10:50	59	9.0%	5743	0	41.4	01308606	4548/4571
1/19/01	Sanchez	3:15	56	100%	5743	40	5:20	55	0.0%	5774	0	30.9	01308606	4571/4601
1/21/01	Barbour	9:45	59	100%	5774	40	11:17	63	0.0%	5813	0	39.7	01308606	4601/4629
1/22/01	Sanchez	9:45	65	100%	5813	40	11:30	66	0.0%	5852	0	39.0	01308606	4629/4642

Comments (Dated): 1-5-01 DISCHARGED FROM 12:11 TO 4:15. 1-12-01 DISCHARGED AT 11:45 TO 4:10.

Vehicle Number	2
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Date	Driver	Start					End					Trip Dist.	AC meter#	AC kWh Star/End
		Time	Amb Temp	SOC	Odo	DTE	Time	Amb Temp	SOC	Odo	DTE			
1/21/01	Sanchez	2:00	59	60%	5852	21	3:35	57	0.0%	5894	0	41.4	01308606	4642/4678
1/23/01	Sanchez	10:37	61	100%	5894	39	12:15		0.0%	5937	0	43.2	01308606	4678/4692
1/23/01	Sanchez	3:23	71	72%	5937	24	4:45	65	0.0%	5977	0	40.5	01308606	4692/4729
1/24/01	Sanchez	10:55	46	100%	5977	39	12:20	40	0.0%	6017	2	40.0	01308606	4729/4744
1/24/01	Sanchez	3:10	61	75%	6017	37	4:55	61	0.0%	6061	0	44.0	01308606	4744/4780
1/25/01	Sanchez	8:40	52	100%	6061	38	1:00	60	0.0%	6101	0	40.0	01308606	4780/4796
1/25/01	Sanchez	1:15	65	70%	6101	24	3:05	56	0.0%	6141	0	40.0	01308606	4796/4832
1/26/01	Sanchez	9:30	45	100%	6141	39	11:32	49	0.0%	6179	0	38.0	01308606	4832/4853
1/26/01	Sanchez	3:25	47	90%	6179	30	4:53	46	0.0%	6225	0	45.4	01308606	4853/4898
1/28/01	Barbour	7:45	47	100%	6225	39	9:17	49	0.0%	6262	0	37.4	01308606	4898/4912
1/28/01	Barbour	11:48	56	55%	6262	20	12:59	57	0.0%	6288	0	25.8	01308606	4912/4941
1/29/01	Sanchez	2:23	56	100%	6288	36	4:13	54	0.0%	6328	0	40.2	01308606	4941/4970
1/30/01	Sanchez	1:12:0	50	100%	6328	36	1:15	59	0.0%	6366	0	38.0	01308606	4970/4978
1/30/01	Sanchez	2:50	25	6%	6366	10	3:50		0.0%	6389	0	22.7	01308606	4978/5012
1/31/01	Sanchez	12:00	51	100%	6389	38	1:35	60	0.0%	6427	0	38.4	01308606	5012
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Comments (Dated): 1/28-HEATER ON.

Vehicle Number	2
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Date	Driver	Start					End					Trip Dist.	AC meter#	AC kWh Start/End
		Time	Amb Temp	SOC	Odo	DTE	Time	Amb Temp	SOC	Odo	DTE			
2/1/01	Sanchez	9:14	54	100%	6427	38	10:47	64	2.0%	6467	2	40.3	01308606	5042/5056
2/1/01	Sanchez	1:25	64	75%	6467	24	2:45	66	0.0%	6507	0	40.0	01308606	5056/5063
2/1/01	Sanchez	4:05	66	48%	6507	20	4:26	66	0.0%	6515	0	7.9	01308606	5063/5091
2/2/01	Sanchez	8:00	46	100%	6515	40	9:37	56	0.0%	6556	0	41.2	01308606	5091/5114
2/2/01	Sanchez	2:00	68	100%	6556	40	3:40	69	0.0%	6601	0	44.4	01308606	5114/5152
2/4/01	Barbour	7:18	54	100%	6601	40	9:14	57	0.0%	6647	0	46.2	01308606	5152/5182
2/5/01	Sanchez	2:45	28	75%	6687	32	4:15	76	0.0%	6727	8	40.2	01308606	5198/5228
2/6/01	Sanchez	8:00	56	100%	6727	41	9:15	60	0.0%	6767	4	40.0	01308606	5228/5257
2/7/01	Sanchez	9:35	47	100%	6767	40	11:05	50	0.0%	6810	0	42.4	01308606	5257/5277
2/7/01	Sanchez	3:47	56	100%	6810	38	4:15	46	0.0%	6850	3	40.7	01308606	5277/5307
2/8/01	Sanchez	9:47	47	100%	6850	40	11:17	52	2.0%	6891	8	40.4	01308606	5307/5328
2/8/01	Sanchez	3:10	56	100%	6891	40	4:33	55	3.0%	6933	9	42.1	01308606	5328/5356
2/9/01	Sanchez	7:55	43	100%	6933	40	9:40	48	3.0%	6973	8	40.0	01308606	5356/5378
2/9/01	Sanchez	2:15	56	100%	6973	40	3:50	57	3.0%	7013	8	40.0	01308606	5378/5408
2/10/01	Sanchez	2:00	51	100%	7013	39	3:40	48	0.0%	7054	0	40.5	01308606	5408/5435
2/11/01	Barbour	7:43	44	100%	7054	40	9:04	46	0.0%	7085	0	31.8	01308606	5435/5462
2/12/01	Sanchez	8:10	47	100%	7085	38	10:05	49	0.0%	7119	0	33.8	01308606	5462/5480
2/12/01	Sanchez	1:32	48	100%	7119	30	3:20	49	0.0%	7159	0	40.0	01308606	5480/5511
2/13/01	Sanchez	8:07	48	100%	7159	31	10:00	49	0.0%	7193	0	33.9	01308606	5511/5532
2/13/01	Sanchez	1:35	48	100%	7193	28	3:00	48	0.0%	7234	0	40.6	01308606	5532/5564
2/14/01	Sanchez	8:10	42	100%	7234	31	10:00	48	0.0%	7274	0	40.2	01308606	5564/5591
2/15/01	Sanchez	8:10	42	100%	7274	37	1:00	50	0.0%	7314	0	40.2	01308606	5591/5610
2/15/01	Sanchez	1:35	52	100%	7314	32	3:17	57	0.0%	7364	0	50.4	01308606	5610/5641
2/16/01	Sanchez	8:10	45	100%	7364	41	9:51	54	0.0%	7406	10	42.0	01308606	5641/5662

Comments (Dated): 2-11-01 HEATER ON, 2-12-01 RAIN HEAVY; FLOODING & TRAFFIC.

Vehicle Number	2
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Date	Driver	Start					End					Trip Dist.	AC meter#	AC kWh Start/End
		Time	Amb Temp	SOC	Odo	DTE	Time	Amb Temp	SOC	Odo	DTE			
2/16/01	Sanchez	1:49	64	100%	7406	42	3:40	64	0.0%	7458	8	51.8	01308606	5662/5691
2/17/01	Barbour	8:33	52	100%	7458	42	10:08	57	0.0%	7501	0	43.3	01308606	5691/5719
2/18/01	Barbour	7:12	51	100%	7501	42	8:31	56	0.0%	7536	0	34.2	01308606	5719/5750
2/20/01	Sanchez	8:07	51	100%	7536	41	9:55	57	0.0%	7576	5	40.2	01308606	5750/5769
2/20/01	Sanchez	1:30	64	100%	7576	39	3:02	61	0.0%	7621	2	45.6	01308606	5769/5797
2/21/01	Sanchez	8:30	54	100%	7621	40	10:00	56	0.0%	7662	4	40.6	01308606	5797/5816
2/21/01	Sanchez	1:32	68	100%	7662	39	2:10	68	60.0%	7680	30	18.2	01308606	5816/5833
2/22/01	Sanchez	8:45	55	100%	7680	42	10:10	61	0.0%	7721	0	40.0	01308606	5833/5851
2/22/01	Sanchez	1:30	63	90%	7721	32	3:00	61	0.0%	7760	0	39.6	01308606	5851/5879
2/23/01	Sanchez	8:40	49	100%	7760	41	10:00	46	0.0%	7800	0	40.2	01308606	5879/5898
2/23/01	Sanchez	1:45	52	75%	7800	30	4:01	54	0.0%	7854	0	54.1	01308606	5898/5938
2/24/01	Barbour	6:57	45	100%	7854	40	8:20	49	0.0%	7894	0	39.4	01308606	5938/5963
2/24/01	Sanchez	1:15	51	100%	7894	40	3:00	48	0.0%	7934	0	40.0	01308606	5963/5998
2/26/01	Sanchez	8:20	53	100%	7934	40	3:35	58	0.0%	7974	0	40.1	01308606	5998/6016
2/26/01	Sanchez	1:00	64	90%	7974	32	2:30	65	0.0%	8014	0	40.0	01308606	6016/6043
2/27/01	Sanchez	9:55	54	100%	8014	41	10:15	56	0.0%	8054	0	40.0	01308606	6043/6065
2/27/01	Sanchez	12:20	47	100%	8054	42	3:47	43	0.0%	8094	0	40.5	01308606	6065/6092
2/28/01	Sanchez	8:40	50	75%	8094	41	10:30	52	0.0%	8140	0	46.0	01308606	6092/6109
2/28/01	Sanchez	1:48	51	75%	8140	30	3:17	54	0.0%	8181	0	40.5	01308606	6109/6142
3/1/01	J.Ruiz	2:25	62	100%	8181	40	3:25	63	43.0%	8203	20	22.1	01308606	6142/6159
3/2/01	Sanchez	8:30	51	100%	8203	40	10:00	55	0.0%	8234	0	30.7	01308606	6159/6178
3/2/01	Sanchez	1:45	62	100%	8234	32	3:10		0.0%	8278	0	44.8	01308606	6178/6209
3/4/01	Barbour	6:35	51	100%	8278	38	7:48	53	0.0%	8310	0	31.8	01308606	6209/6225
3/4/01	Barbour	10:56	55	95%	8310	35	12:27	56	0.0%	8348	0	38.1	01308606	6225/6250
3/5/01	Sanchez	8:20	60	100%	8348	40	9:52	65	0.0%	8309	0	40.6	01308606	6250/6266

Comments (Dated): 2/17 heater on 1st 5 miles, 2/18 heater on. 3/4 heater on

Vehicle Number	2
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Date	Driver	Start					End					Trip Dist.	AC meter#	AC kWh Start/End
		Time	Amb Temp	SOC	Odo	DTE	Time	Amb Temp	SOC	Odo	DTE			
3/5/01	Sanchez	1:30	65	75%	8389	37	2:55	64	0.0%	8430	0	40.0	01308606	6266/6296
3/6/01	Sanchez	8:10	58	100%	8430	42	10:00	61	0.0%	8470	0	40.0	01308606	6296/6316
3/6/01	Sanchez	1:30	61	100%	8470	42	4:00	63	0.0%	8510	0	40.4	01308606	6316/6345
3/7/01	Sanchez	8:10	55	100%	8510	41	9:40	56	0.0%	8551	0	40.3	01308606	6345/6366
3/7/01	Sanchez	1:30	65	100%	8551	41	2:55	64	0.0%	8591	0	40.1	01308606	6366/6391
3/8/01	Sanchez	8:40	60	100%	8591	42	10:18	66	0.0%	8631	0	40.7	01308606	6391/6409
3/8/01	Sanchez	1:30	67	90%	8631	36	3:20	68	0.0%	8672	0	41.1	01308606	6409/6437
3/9/01	Sanchez	8:20	55	100%	8672	42	10:00	57	0.0%	8713	0	40.8	01308606	6437/6460
3/9/01	Sanchez	2:30	64	100%	8713	41	4:45	52	0.0%	8756	0	43.3	01308606	6460/6490
3/10/01	Barbour	8:10	51	100%	8756	41	9:52	57	0.0%	8799	0	42.3	01308606	6490/6516
3/11/01	Barbour	8:06	54	100%	8799	40	9:43	59	0.0%	8841	0	42.0	01308606	6516/6542
3/12/01	Sanchez	8:15	53	100%	8841	40	10:05	58	0.0%	8883	0	42.8	01308606	6542/6559
3/12/01	Sanchez	1:30	67	77%	8883	32	3:13	72	0.0%	8924	0	40.2	01308606	6559/6587
3/13/01	Sanchez	8:10	54	100%	8924	41	9:50	60	0.0%	8964	0	40.0	01308606	6587/6607
3/13/01	Sanchez	1:30	70	90%	8964	40	3:12	70	0.0%	9007	0	43.0	01308606	6607/6635
3/14/01	Sanchez	8:30	54	100%	9007	41	10:00	60	0.0%	9047	0	40.0	01308606	6635/6658
3/14/01	Sanchez	3:45	67	100%	9047	41	4:30	67	60.0%	9065	29	18.7	01308606	6658/6672
3/15/01	Sanchez	9:30	62	100%	9065	41	11:10	63	0.0%	9106	0	40.5	01308606	6672/6689
3/15/01	Sanchez	2:40	63	75%	9106	30	4:12	67	0.0%	9148	0	42.2	01308606	6689/6722
3/16/01	Sanchez	8:15	57	100%	9148	40	10:15	63	0.0%	9189	0	41.4	01308606	6722/6738
3/16/01	Sanchez	1:30	75	65%	9189	35	3:00	66	0.0%	9232	0	42.3	01308606	6738/6770
3/17/01	Barbour	8:16	56	100%	9232	43	9:58	63	0.0%	9274	0	42.0	01308606	6770/6795
3/18/01	Barbour	4:50	51	100%	9274	43	6:07	55	0.0%	9311	0	37.4	01308606	6795/6812
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Comments (Dated):

Vehicle Number	2
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Date	Driver	Start					End					Trip Dist.	AC meter#	AC kWh Start/End
		Time	Amb Temp	SOC	Odo	DTE	Time	Amb Temp	SOC	Odo	DTE			
3/18/01	Barbour	9:05	65	75%	9311	30	10:17	71	20	9341	15	29.9	1308606	6812/6838
3/19/01	Sanchez	9:45	71	100%	9341	41	11:19	77	0.0%	9382	4	40.6	01308606	6838/6858
3/19/01	Sanchez	3:25	85	100%	9382	41	4:53	83	10.0%	9422	10	40.0	01308606	6858/6882
3/20/01	Sanchez	9:00	75	100%	9422	42	8:10	78	0.0%	9464	0	42.8	01378516	6882/3554
3/20/01	Sanchez	2:00	83	95%	9464	31	3:40	81	0.0%	9510	0	45.4	01378516	3554/3586
3/21/01	Sanchez	8:00	59	100%	9510	43	9:45	64	0.0%	9550	0	40.1	01378516	3586/3602
3/21/01	Sanchez	12:50	75	95%	9550	38	2:37	75	0.0%	9592	0	41.7	01378516	3602/3633
3/22/01	Sanchez	8:05	57	100%	9592	42	10:00	58	0.0%	9633	0	41.2	01378516	3633/3651
3/22/01	Sanchez	1:30		95%	9633	38	3:00		0.0%	9673	0	40.3	01378516	3651/3681
3/23/01	Sanchez	8:10		100%	9673	42	11:50	69	0.0%	9711	0	37.8	01378516	3681/3704
3/23/01	Sanchez	1:55	69	100%	9711	40	4:40	79	0.0%	9751	0	40.5	01378516	3704/3735
3/25/01	Barbour	11:15	70	100%	9751	42	1:19	77	0.0%	9790	0	38.6	01378516	3735/3760
3/26/01	Barbour	11:30	70	100%	9790	40	1:42	71	0.0%	9829	0	39.0	01378516	3760/3775
3/26/01	Barbour	4:30	68	95%	9829	39	5:41	65	50.0%	9849	28	20.3	01378516	3775/3793
3/27/01	Ruiz	9:45	64.5	100%	9849	42	12:15	72	0.0%	9899	0	49.3	01378516	3793/3822
3/28/01	Sanchez	8:15	61	100%	9899	42	10:00	63	0.0%	9939	0	40.1	01378516	3822/3840
3/28/01	Sanchez	1:30	72	80%	9939	38	3:00	73	0.0%	9979	0	40.9	01378516	3840/3868
3/29/01	Sanchez	8:15	59	100%	9979	42	10:05	67	0.0%	10020	0	40.4	01378516	3868/3887
3/29/01	Sanchez	1:30	71	95%	10020	38	2:50	73	0.0%	10060	0	40.4	01378516	3887/3916
3/30/01	Sanchez	8:10	65	100%	10060	42	9:48	67	0.0%	10100	4	40.1	01378516	3916/3935
3/30/01	Sanchez	1:20	79	80%	10100	38	2:35	80	0.0%	10140	0	40.0	01378516	3935/3966
4/1/01	Barbour	9:15	60	100%	10140	42	10:49	62	0.0%	10179	0	38.2	01378516	3966/3991
4/2/01	Sanchez	8:12	67	100%	10179	40	9:40	59	0.0%	10218	0	40.0	01378516	3991/4006
4/2/01	Sanchez	12:40	66	72%	10218	29	2:10	68	0.0%	10259	0	40.1	01378516	4006/4036
4/3/01	Sanchez	8:30	58	100%	10259	42	9:45	57	0.0%	10249	0	40.2	01378516	4036/

Comments (Dated): 3/19/01 Fan on 3/25/01 Powe limit on @ 29.4 miles
 Fan on low 3/20/01

Vehicle Number	2
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Date	Driver	Start					End					Trip Dist.	AC meter#	AC kWh Start/End
		Time	Amb Temp	SOC	Odo	DTE	Time	Amb Temp	SOC	Odo	DTE			
4/3/01	Sanchez	1:20	66	100%	10299	40	2:45	63	3.0%	10339	10	40.4	01378516	/4056
4/4/01	Sanchez	8:00	54	100%	10339	40	10:30	63	0.0%	10379	0	40.0	01378516	4056/4085
4/4/01	Sanchez	1:30	59	75%	10379	32	2:50	63	0.0%	10419	0	40.1	01378516	4085/4102
4/6/01	Sanchez	8:00	53	100%	10419	41	11:40	64	0.0%	10452	0	32.0	01378516	4102/4136
4/6/01	Sanchez	4:10	62	100%	10452	38	6:10	62	0.0%	10491	0	39.0	01378516	4136/4187
4/8/01	Sanchez	10:20	54	100%	10491	40	11:58	59	0.0%	10531	0	39.8	01378516	4187/4200
4/8/01	Barbour	2:20	61	75%	10531	30	3:42	65	0.0%	10562	0	31.5	01378516	4200/4227
4/9/01	Sanchez	8:25	49	100%	10562	42	10:05	56	0.0%	10602	0	40.2	01378516	4227/4242
4/9/01	Sanchez	1:00	63	75%	10602	30	2:25	51	0.0%	10643	0	40.5	01378516	4242/4273
4/10/01	Sanchez	8:25	47	100%	10643	42	9:55	55	0.0%	10683	0	40.0	01378516	4273/4289
4/10/01	Sanchez	1:00	64	75%	10683	30	3:05	65	0.0%	10723	0	40.3	01378516	4289/4319
4/11/01	Sanchez	9:00	60	100%	10723	42	11:30	56	0.0%	10764	0	40.8	01378516	4319/4336
4/11/01	Sanchez	2:30	51	80%	10764	38	4:15	54	0.0%	10804	0	40.1	01378516	4336/4366
4/12/01	Sanchez	8:30	54	100%	10804	42	10:30	62	0.0%	10845	0	40.7	01378516	4366/4384
4/12/01	Sanchez	1:45	68	77%	10845	32	3:05	68	0.0%	10885	0	40.3	01378516	4384/4413
4/13/01	Sanchez	8:30	56	100%	10885	42	9:45	62	0.0%	10925	0	40.0	01378516	4413/4435
4/13/01	Sanchez	2:00	74	100%	10925	42	3:30	73	0.0%	10965	0	40.1	01378516	4435/4466
4/15/01	Sanchez	9:10	60	100%	10965	42	10:52	66	0.0%	11009	0	43.5	01378516	4466/4493
4/16/01	Sanchez	10:00	68	100%	11009	40	12:05	74	0.0%	11051	0	43.0	01378516	4493/4519
4/17/01	Sanchez	8:20	60	100%	11051	40	9:50	66	0.0%	11091	0	40.0	01378516	4519/4541
4/17/01	Sanchez	2:30	80	100%	11091	42	5:05	82	0.0%	11139	0	47.7	01378516	4541/4568
4/18/01	Sanchez	8:30	62	100%	11139	42	10:20	74	0.0%	11179	0	40.0	01378516	4568/4585
4/18/01	Sanchez	1:20	78	80%	11179	39	3:00	77	0.0%	11220	0	41.2	01378516	4585/4615
4/19/01	Sanchez	10:45	65	100%	11220	43	12:30	69	0.0%	11270	0	50.0	01378516	4615/4644
4/20/01	Sanchez	8:15	55	100%	11270	42	10:00	60	0.0%	11312	0	41.8	01378516	4644/

Comments (Dated): * Malfunction, power limit reached at 28 miles, towed by Haddicks

Vehicle Number	2
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Date	Driver	Start					End					Trip Dist.	AC meter#	AC kWh Start/End
		Time	Amb Temp	SOC	Odo	DTE	Time	Amb Temp	SOC	Odo	DTE			
4/20/01	Sanchez	1:45	69	100%	11312	40	3:05	65	0.0%	11353	0	40.4	01378516	4663/4696
4/22/01	Barbour	8:10	51	100%	11353	42	9:52	56	0.0%	11395	0	42.8	01378516	4696/4721
4/23/01	Sanchez	8:15	60	100%	11395	42	9:05	70	0.0%	11436	0	41.0	01378516	4721/4737
4/23/01	Sanchez	1:36	79	75%	11436	30	2:50	83	0.0%	11479	0	42.3	01378516	4737/4768
4/24/01	Sanchez	9:00	69	100%	11479	42	11:00	810	0.0%	11519	0	40.0	01378516	4768/4784
4/24/01	Sanchez	1:50	87	75%	11519	30	3:40	90	0.0%	11560	0	40.6	01378516	4784/4818
4/25/01	Sanchez	8:10	63	100%	11560	40	9:35	76	0.0%	11600	0	40.3	01378516	4818/4828
4/25/01	Sanchez	12:50	86	50%	11600	30	2:30	87	0.0%	11640	0	40.0	01378516	4828/4861
4/26/01	Sanchez	8:25	62	100%	11640	50	10:20	70	0.0%	11690	0	50.0	01378516	4861/4881
4/26/01	Sanchez	2:00	72	70%	11690	30	3:30	80	0.0%	11734	0	44.0	01378516	4881/4915
4/27/01	Sanchez	8:40	61	100%	11734	42	10:00	65	0.0%	11776	0	40.8	01378516	4915/4938
4/27/01	Sanchez	4:15	77	100%	11776	42	5:41	75	0.0%	11816	0	40.0	01378516	4938/4946
4/28/01	Barbour	7:30	59	100%	11816	42	9:21	63	0.0%	11856	0	40.5	01378516	4946/4994
5/1/01	Sanchez	8:30	61	100%	11856	40	12:00	75	0.0%	11886	0	29.6	01378516	4994/5015
5/2/01	Sanchez	8:45	57	100%	11886	40	10:20	59	0.0%	11924	0	38.7	01378516	5015/5033
5/2/01	Sanchez	2:10	70	95%	11924	39	3:30		0.0%	11965	0	40.4	01378516	5033/5059
5/3/01	Sanchez	8:30	62	100%	11965	41	10:00	70	0.0%	12005	0	40.2	01378516	5059/5081
5/3/01	Sanchez	2:00	78	100%	12005	40	3:30	80	0.0%	12045	0	40.2	01378516	5081/5106
5/4/01	Sanchez	8:30	65	100%	12045	41	10:20	70	0.0%	12085	0	40.3	01378516	5106/
5/4/01	Sanchez	1:30	80	75%	12085	37	3:20	81	0.0%	12125	0	42.0	01378516	/5156
5/6/01	Barbour	10:10	73	100%	12125	44	11:54	82	0.0%	12167	0	40.5	01378516	5156/5180
5/7/01	Sanchez	8:30	71	100%	12167	42	10:30	80	0.0%	12208	0	40.0	01378516	5180/5195
5/7/01	Sanchez	1:15	87	75%	12208	35	2:30	92	0.0%	12248	0	40.0	01378516	5195/5227
5/8/01	Sanchez	9:50	76	100%	12248	40	10:05	82	0.0%	12288	0	40.0	01378516	5227/5253
5/9/01	Sanchez	8:15	72	100%	12288	40	10:15	80	0.0%	12328	0	40.1	01378516	5253

Comments (Dated): *5/1/01 at 26.5 miles (9:00am) van's power decreased suddenly, Haddicks towed, release# z307 used.

Vehicle Number	2
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Date	Driver	Start					End					Trip Dist.	AC meter#	AC kWh Start/End
		Time	Amb Temp	SOC	Odo	DTE	Time	Amb Temp	SOC	Odo	DTE			
5/9/01	Sanchez	2:00	88	100%	12328	40	4:25	84	0.0%	12380	0	52.7	01378516	/5273
5/10/01	Neil	9:46	75	100%	12380	42	11:01	80	20.0%	12413	18	32.9	01378516	5273/5325
5/10/01	Barbour	4:15	84	100%	12413	42	5:42	82	25.0%	12453	18	39.8	01378516	5325/5349
5/11/01	Sanchez	8:45	66	100%	12453	40	10:10	72	0.0%	12493	0	40.1	01378516	5349/5368
5/14/01	Sanchez	1:30	95	100%	12493	39	3:36	83	0.0%	12533	0	40.0	01378516	5368/5400
5/14/01	Sanchez	9:00	66	100%	12533	43	10:10		0.0%	12562	0	28.9	01378516	5400/5421
5/15/01	Sanchez	10:20	74	100%	12562	40	11:10	73	0.0%	12600	0	37.4	01378516	5421/5444
5/16/01	Sanchez	8:40	68	100%	12600	40	10:05	72	0.0%	12640	0	40.0	01378516	5444/5460
5/16/01	Sanchez	1:05	79	90%	12640	31	2:30	80	0.0%	12680	0	40.4	01378516	5460/5489
5/17/01	Sanchez	9:05	72	100%	12680	42	10:30	73	0.0%	12721	0	41.4	01378516	5489/5507
5/17/01	Sanchez	1:30	80	80%	12721	38	3:40	84	0.0%	12762	0	40.9	01378516	5507/5534
5/18/01	Sanchez	9:00	70	100%	12762	43	11:30	72	0.0%	12822	0	40.0	01378516	5534/5550
5/18/01	Sanchez	2:30	78	80%	12822	37	5:50	70	0.0%	12850	0	48.2	01378516	5550/5587
5/19/01	Barbour	6:25	63	100%	12850	43	7:54	67	0.0%	12892	0	42.0	01378516	5587/5618
5/21/01	Barbour	11:30	75	100%	12892	43	1:34	80	0.0%	12934	0	41.2	01378516	5618/
5/21/01	Barbour												01378516	
5/22/01	Ruiz	11:30	85	100%	12934	40	2:00	88	0.0%	12970	0	36.2	01378516	5643/5668
5/23/01	Sanchez	9:00	73	100%	12970	42	10:53	87	0.0%	13011	0	41.2	01378516	5668/5688
5/23/01	Sanchez	2:30	95	100%	13011	42	4:17	94	0.0%	13053	0	41.6	01378516	5688/
5/24/01	Ruiz	10:45	73	100%	13053	44	12:25	77	0.0%	13094	0	41.2	01378516	5713/5726
5/24/01	Sanchez	3:00	81	60%	13094	30	4:21	82	0.0%	13133	0	39.6	01378516	5726/5758
5/24/01	Sanchez	8:15	71	100%	13133	42	9:30	75	0.0%	13172	0	38.8	01378516	5758/5778
5/25/01	Sanchez	11:20	85	100%	13172	41	2:40	83	0.0%	13214	0	41.4	01378516	5778/5807
5/27/01	Barbour	10:30	66	100%	13214	44	12:06	69	0.0%	13254	0	40.3	01378516	5807/5835
5/29/01	Sanchez	9:00	69	100%	13254	42	12:30	80	0.0%	13282	0	28.3	01378516	5835/

Comments (Dated): 5/11/01, van's fuel drops fast at 27 miles to zero and at 28 miles service wrench lit up. 5/18/01 driven down.
 5/29/01 van's fuel drops fast at 27 miles; van stops at 28.3 miles.

Vehicle Number	2
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Date	Driver	Start					End					Trip Dist.	AC meter#	AC kWh Start/End
		Time	Amb Temp	SOC	Odo	DTE	Time	Amb Temp	SOC	Odo	DTE			
6/14/01	Sanchez	1:40	91	100%	14286	40	3:06	92	0.0%	14326	0	39.6	01378516	
6/15/01	Sanchez	8:50	80	100%	14326	43	11:00	88	0.0%	14375	0	49.4	01378516	6418/6444
6/15/01	Sanchez	3:20	95	51%	14375	20	4:40	95	0.0%	14400	0	24.5	01378516	6444/6476
6/16/01	Barbour	6:06	65	100%	14400	42	7:52	82	0.0%	14444	0	44.2	01378516	6476/
6/18/01	Sanchez	8:20	88	100%	14444	42	10:30	85	0.0%	14482	0	38	01378516	/6506
6/18/01	Sanchez	2:15	92	100%	14482	41	3:40	92	0.0%	14522	0	40	01378516	6506/6525
6/18/01	Barbour	5:30	101	70%	14522	28	6:42	92	0.0%	14553	0	31.2	01378516	6525/6536
6/19/01	Sanchez	8:15	80	100%	14553	42	9:50	85	0.0%	14594	0	40.4	01378516	6536/6564
6/19/01	Sanchez	1:30	92	60%	14594	30	3:00	92	0.0%	14632	0	38.4	01378516	6564/6575
6/19/01	Barbour	5:15	98	25%	14632	18	5:58	93	0.0%	14648	0	16.3	01378516	6575/6518
6/20/01	Sanchez	8:15	95	100%	14648	42	10:00	84	0.0%	14688	0	40.3	01378516	6581/6612
6/20/01	Sanchez	1:15	89	55%	14688	26	2:45	91	0.0%	14725	0	37.6	01378516	6612/6623
6/21/01	Sanchez	8:15	96	100%	14725	42	9:45	85	0.0%	14765	0	40.1	01378516	6623/6655
6/21/01	Sanchez	1:30	85	60%	14765	30	3:00	95	0.0%	14805	0	40.2	01378516	6655/6667
6/22/01	Sanchez	8:00	85	100%	14805	42	10:00	87	0.0%	14845	0	40.3	01378516	6667/6700
6/22/01	Sanchez	2:00	95	601%	14845	30	3:21	98	0.0%	14886	0	40.3	01378516	6700/6712
6/23/01	Barbour	11:25	88	100%	14886	44	1:16	94	0.0%	14932	0	46.6	01378516	6712/6747
6/24/01	Barbour	8:00	78	100%	14932	48	9:43	81	0.0%	14978	0	45.9	01378516	6747/6802
6/25/01	Sanchez	8:50	100	100%	14978	43	10:30	80	0.0%	15017	0	38.7	01378516	6802/6819
6/25/01	Sanchez	1:40	87	99%	15017	40	3:15	88	0.0%	15056	0	39.6	01378516	6819/6831
6/25/01	Barbour	5:30	88	70%	15056	32	7:04	82	0.0%	15092	0	36.1	01378516	6831/6845
6/26/01	Sanchez	12:30	89	65%	15092	32	2:48	83	0.0%	15132	0	39.7	01378516	6845/6905
6/26/01	Sanchez	8:20	90	100%	15132	45	10:00	78	0.0%	15172	0	39.8	01378516	6905/6921
6/27/01	Sanchez	8:30	75	100%	15172	45	10:20	81	0.0%	15215	0	42.4	01378516	6921/
6/28/01	Sanchez	1:30	91	75%	15215	30	3:10	91	0.0%	15255	0	40	01378516	/6932
6/28/01	Barbour	5:30	94	50%	15255	23	6:42	92	0.0%	15279	0	23.4	01378516	6932/6961

Comments (Dated):

Vehicle Number	2
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Date	Driver	Start					End					Trip Dist.	AC meter#	AC kWh Start/End
		Time	Amb Temp	100%	Odo	DTE	Time	Amb Temp	SOC	Odo	DTE			
7/15/01	Barbour	9:56	74	100%	16217	41	10:55	76	0.0%	16239	0	22.1	01308606	7497/7513
7/18/01	Sanchez	11:00	73	100%	16315	45	1:00	80	0.0%	16356	0	41.1	01308606	7513/7530
7/18/01	Sanchez	4:10	86	80%	16356	40	5:40	79	0.0%	16397	0	40.2	01308606	7530/7558
7/19/01	Sanchez	8:30	70	100%	16397	42	10:30	75	0.0%	16437	0	40.5	01308606	7558/7579
7/19/01	Sanchez	3:00	86	100%	16437	42	5:35	91	0.0%	16478	0	40.5	01308606	7579/7605
7/20/01	Sanchez	8:25	70	100%	16478	40	10:25	73	0.0%	16519	0	41.0	01308606	7605/7626
7/20/01	Sanchez	3:00	85	100%	16519	42	5:30	97	0.0%	16563	0	44.2	01308606	7626/7660
7/22/01	Barbour	8:20	73	100%	16563	42	10:05	76	0.0%	16607	0	43.7	01308606	7660/7686
7/23/01	Sanchez	8:25	79	100%	16607	42	10:30	75	0.0%	16647	0	40.4	01308606	7686/7705
7/23/01	Sanchez	2:00	83	100%	16647	0	4:15	86	0.0%	16691	0	43.6	01308606	7705/7734
7/24/01	Sanchez	8:00	70	100%	16691	42	10:05	74	0.0%	16731	0	40.2	01308606	7734/7751
7/24/01	Sanchez	1:10	83	77%	16731	32	2:35	86	0.0%	16771	0	40.0	01308606	7751/7781
7/25/01	Sanchez	8:10	68	100%	16771	41	10:10	76	0.0%	16811	0	40.1	01308606	7781/7801
7/25/01	Sanchez	1:50	85	100%	16811	40	3:28	85	0.0%	16851	0	40.3	01308606	7801/7826
7/26/01	Sanchez	8:20	70	100%	16851	42	10:30	77	0.0%	16892	0	40.7	01308606	7826/7843
7/26/01	Sanchez	1:30	86	75%	16892	33	3:25	90	0.0%	16932	0	40.0	01308606	7843/7873
7/27/01	Sanchez	8:10	78	100%	16932	41	10:10	78	0.0%	16973	0	41.2	01308606	7873/7889
7/27/01	Sanchez	2:10	90	75%	16973	31	3:36	92	0.0%	17011	0	37.6	01308606	7889/7930
7/29/01	Barbour	10:30	76	100%	17015	39	12:12	82	0.0%	17055	0	40.5	01308606	7930/7957
7/30/01	Sanchez	10:25	74	100%	17055	40	1:00	78	0.0%	17095	0	40.0	01308606	7957/7974
7/30/01	Sanchez	4:25	80	85%	17095	37	6:00	95	0.0%	17136	0	40.5	01308606	7974/8002
7/31/01	Sanchez	8:30	71	100%	17136	41	10:35	73	0.0%	17176	0	40.1	01308606	8002/8019
7/31/01	Sanchez	1:45	80	80%	17176	33	4:35	85	0.0%	17216	0	40.2	01308606	8019/8022
7/31/01	Barbour	5:15	84	25%	17216	12	5:59	82	0.0%	17230	0	13.7	01308606	8022/8052 /
8/1/01	Sanchez	8:30	71	100%	17230	40	10:45	75	0.0%	17271	0	41.3	01308606	8052

Comments (Dated):

Vehicle Number	2
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Date	Driver	Start					End					Trip Dist.	AC meter#	AC kWh Start/End
		Time	Amb Temp	SOC	Odo	DTE	Time	Amb Temp	SOC	Odo	DTE			
8/27/01	Barbour	5:00	90	50%	19091	20	5:53	87	20.0%	19111	12	20.2	01308606	9069/9094
8/28/01	Sanchez	8:05	70	100%	19111	42	9:45	75	0.0%	19150	0	39.4	01308606	9094/9113
8/28/01	Sanchez	1:00	87	82%	19150	40			0.0%	19190	0	40.4	01308606	9113/9120
8/29/01	Barbour	4:31	86	45%	19190	20	5:45	84	0.0%	19212	0	21.6	01308606	9120/9150
8/29/01	Sanchez	11:12	76	100%	19212	50	11:50	73	0.0%	19232	0	20.0	01308606	9150/9162
8/30/01	Sanchez	3:30	81	100%	19232	48	5:30	80	0.0%	19272	0	40.0	01308606	9162/9188
8/30/01	Sanchez	8:05	79	100%	19272	47	10:10	73	0.0%	19314	0	41.7	01308606	9188/9205
8/31/01	Sanchez	12:30	82	76%	19314	32	3:15	85	0.0%	19355	0	41.4	01308606	9205/9237
8/31/01	Sanchez	8:10	67	100%	19355	43	10:15	75	0.0%	19396	0	40.7	01308606	9237/9253
9/1/01	Sanchez	1:20	85	75%	19396	36	2:50	87	0.0%	19435	0	39.3	01308606	9253/9286
9/5/01	Barbour	1:31	88	100%	19435	45	3:28	91	0.0%	19481	0	45.7	01308606	9286/9347
9/5/01	Sanchez	12:00	85	100%	19481	42	2:00	90	0.0%	19521	0	40.0	01308606	9347/9350
9/6/01	Barbour	4:33	85	65%	19521	26	6:12	84	0.0%	19554	0	33.3	01308606	9350/9376
9/6/01	Sanchez	8:15	70	100%	19554	44	10:15	75	0.0%	19594	0	40.2	01308606	9376/9390
9/7/01	Sanchez	1:05	0:00	73%	19594	30	2:50	80	0.0%	19632	0	37.8	01308606	9390/9420
9/7/01	Sanchez	8:10	66	100%	19632	42	1:00	70	0.0%	19672	0	40.1	01308606	9420/9440
9/7/01	Sanchez	1:05	78	98%	19672	38	3:30	81	0.0%	19713	0	40.4	01308606	9440/9448
9/8/01	Sanchez	4:53	80	45%	19713	18	6:07	78	0.0%	19736	0	23.1	01308606	9448/9478
9/9/01	Barbour	10:53	74	100%	19736	42	12:38	77	0.0%	19779	0	43.6	01308606	9478/9504
9/9/01	Barbour	9:04	65	100%	19779	45	11:16	71	0.0%	19829	0	50.2	01308606	9504/9518
9/9/01	Barbour	1:35	77	65%	19829	30	2:58	79	0.0%	19861	0	32.1	01308606	9518/9546
9/10/01	Sanchez	8:10	63	100%	19861	48	10:00	21	0.0%	19902	0	40.5	01308606	9546/9568
9/10/01	Sanchez	2:00	80	100%	19902	38	4:00	79	0.0%	19942	0	40.4	01308606	9568/9603
9/12/01	Sanchez	9:10	70	100%	19942	42	9:40	74	0.0%	19982	0	39.3	01308606	9603/9620
9/12/01	Sanchez	2:00	80	98%	19982	36	3:30	84	0.0%	20022	0	40.1	01308606	9620/

Comments (Dated):

Vehicle Number	2
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Date	Driver	Start					End					Trip Dist.	AC meter#	AC kWh Start/End
		Time	Amb Temp	SOC	Odo	DTE	Time	Amb Temp	SOC	Odo	DTE			
9/13/01	Sanchez	8:00	65	100%	20022	42	9:50	72	0.0%	20062	0	40.2	01308606	/9647
9/13/01	Sanchez	1:35	85	100%	20062	36	3:16	78	0.0%	20101	0	39.5	01308606	9647/9668
9/14/01	Sanchez	8:45	73	100%	20101	40	10:10	80	0.0%	20141	0	40.0	01308606	9668/9691
9/14/01	Sanchez	1:30	90	95%	20141	33	3:15	93	0.0%	20182	0	40.1	01308606	9691/9709
9/17/01	Sanchez	9:00	67	100%	20182	40	10:30	70	0.0%	20219	0	37.2	01308606	9709/9753
9/17/01	Barbour	4:32	81	100%	20219	40	6:13	76	30.0%	20254	11	35.0	01308606	9753/9753
9/18/01	Sanchez	9:25	70	100%	20254	40	11:17	72	0.0%	20301	0	47.2	01308606	9753/9792
9/18/01	Sanchez	3:30	82	100%	20301	36	5:00	80	0.0%	20343	0	42.3	01308606	9792/9814
													01308606	9814/9851
9/20/01	Sanchez	9:45	63	100%	20343	40	10:28	68	0.0%	20385	0	42.0	01308606	9851/9872
9/20/01	Sanchez	3:40	82	100%	20385	40	5:45	80	0.0%	20425	0	40.2	01308606	9872/9897
9/21/01	Sanchez	9:00	67	100%	20425	40	10:45	74	0.0%	20469	0	44.0	01308606	9897/9914
9/21/01	Sanchez	1:30	85	75%	20469	30	3:30	87	0.0%	20509	0	40.1	01308606	9914/9922
9/21/01	Barbour	5:00	81	45%	20509	20	6:17	80	0.0%	20533	0	24.0	01308606	9922/9951
9/22/01	Barbour	7:34	64	100%	20533	41	9:18	70	0.0%	20576	0	43.0	01308606	9951/9959
9/22/01	Barbour	10:50	77	50%	20576	20	12:16	84	0.0%	20602	0	25.4	01308606	9959/9981
9/23/01	Barbour	7:05	62	100%	20602	40	8:03	64	50.0%	20625	0	22.7	01308606	9981/10008
9/24/01	Sanchez	9:30	74	100%	20625	40	11:30	82	0.0%	20672	0	47.5	01308606	10008/10020
9/24/01	Sanchez	1:55	95	60%	20672	27	9:00	95	0.0%	20704	0	32.5	01308606	10020/10028
9/24/01	Barbour	5:30	92	30%	20704	14	6:26	89	0.0%	20722	0	17.3	01308606	10028/10057
9/25/01	Sanchez	8:30	75	100%	20722	43	11:02	85	0.0%	20733	0	51.4	01308606	10057/10072
9/25/01	Sanchez	1:50	95	65%	20733	50	3:00	45	0.0%	20806	0	32.8	01308606	10072/10083
9/25/01	Barbour	5:00	90	55%	20806	22	6:14	88	0.0%	20831	0	24.8	01308606	10083/10110
9/26/01	Sanchez	9:00	75	100%	20831	42	11:34	85	0.0%	20886	0	55.7	01308606	10110/10123
9/26/01	Sanchez	2:00	92	49%	20886	21	3:00	92	0.0%	20915	0	28.4	01308606	10123/

Comments (Dated):

Vehicle Number	2
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Date	Driver	Start					End					Trip Dist.	AC meter#	AC kWh Start/End
		Time	Amb Temp	SOC	Odo	DTE	Time	Amb Temp	SOC	Odo	DTE			
10/12/01	Sanchez	1:35	81	84%	21849	30	3:15	84	0.0%	21889	0	40.0	01308606	/10689
10/15/01	Sanchez	4:30	67	100%	21889	40	11:00	77	0.0%	21930	0	40.8	01308606	10689/10727
10/15/01	Sanchez	3:00	88	100%	21930	37	5:10	82	0.0%	21970	0	39.8	01308606	10727/10746
10/16/01	Sanchez	8:30	62	100%	21970	40	10:42	72	0.0%	22010	0	40.5	01308606	10746/10770
10/17/01	Sanchez	2:30	85	100%	22010	38	4:08	84	0.0%	22051	0	40.3	01308606	10770/10788
10/17/01	Sanchez	9:45	64	100%	22051	40	11:30	73	0.0%	22089	0	38.0	01308606	10788/10813
10/17/01	Sanchez	3:00	80	95%	22089	32	4:30	80	0.0%	22127	0	37.9	01308606	10813/10831
10/18/01	Sanchez	8:30	61	100%	22127	38	10:15	63	0.0%	22161	0	34.4	01308606	10831/10854
10/18/01	Sanchez	3:30	80	100%	22161	32	4:55	80	0.0%	22196	0	34.1	01308606	10854/10873
10/19/01	Sanchez	8:10	59	100%	22196	33	9:30	66	0.0%	22227	0	30.7	01308606	10873/10894
10/19/01	Sanchez	1:45	80	100%	22227	32	3:10	80	0.0%	22255	0	28.2	01308606	10894/10941
10/22/01	Sanchez	1:45	67	100%	22255	32	3:00	70	0.0%	22278	0	22.6	01308606	10941/10955
10/23/01	Sanchez	10:30	65	100%	22278	30	4:30	66	0.0%	22299	0	21.4	01308606	10955/10988
10/31/01	Sanchez	10:16	78	100%	22383	32	12:00	71	0.0%	22423	0	40.0	01308606	10988/11013
11/1/01	Sanchez	10:40	67	100%	22423	38	12:00	70	0.0%	22463	0	40.3	01308606	11013/11040
11/2/01	Sanchez	10:36	65	100%	22463	34	12:05	68	0.0%	22500	0	36.2	01308606	11040/
11/6/01	Sanchez	2:20	72	100%	22500	36	3:55	70	0.0%	22536	0	36.1	01308606	11082/11108
11/7/01	Sanchez	1:22	74	100%	22536	32	3:45	72	0.0%	22577	0	41.2	01308606	11108/11134
11/8/01	Sanchez	10:30	74	100%	22577	32	12:00	81	0.0%	22611	0	34.7	01308606	11134/11154
11/9/01	Sanchez	4:15	81	100%	22611	32	6:20	74	0.0%	22651	0	40.0	01308606	11154/11178
11/9/01	Sanchez	10:40	73	100%	22651	22	12:00	74	0.0%	22691	0	40.0	01308606	11178/11195
11/9/01	Sanchez	3:15	75	100%	22691	29	5:00	68	0.0%	22731	0	40.0	01308606	11195/11251
11/14/01	Sanchez	11:15	68	100%	22731	38	12:25	70	0.0%	22752	0	20.6	01308606	11251/11263
11/14/01	Sanchez	3:40	72	100%	22752	34	5:00	67	0.0%	22788	0	36.4	01308606	11263/11287
11/15/01	Sanchez	11:15	75	100%	22788	38	12:40	77	0.0%	22828	0	40.0	01308606	11287/

Comments (Dated):

- 10/19/2001 service wrench on at end of trip
- 10/20/2002 low mileage and service wrench on at 20 miles
- 11/02/2001 service wrench lit up at 33 miles and van began running sluggish back to the EVTCat 20 mph

Vehicle Number	2
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Date	Driver	Start					End					Trip Dist.	AC meter#	AC kWh Start/End
		Time	Amb Temp	SOC	Odo	DTE	Time	Amb Temp	SOC	Odo	DTE			
11/15/01	Sanchez	4:00	76	98%	22828	32	5:50	71	5.0%	22859	5	31.0	01308606	/11305
11/16/01	Sanchez	10:05	68	100%	22859	37	11:35	73	0.0%	22900	0	40.1	01308606	11305/11328
11/16/01	Sanchez	4:15	74	100%	22900	34	4:50	73	74.0%	22909	74	9.0	01308606	11328/11315
11/19/01	Sanchez	11:00	72	100%	22909	36	12:30	78	0.0%	22949	0	40.3	01308606	11315/11385
11/19/01	Sanchez	3:20	78	76%	22949	28	5:00	74	0.0%	22989	0	40.0	01308606	11385/11400
11/20/01	Sanchez	1:30	71	100%	22989	38	3:00	70	0.0%	23027	0	38.6	01308606	11400/11436
11/26/01	Sanchez	11:00	68	100%	23027	40	12:15	62	0.0%	23060	0	33.0	01308606	11436/11490
11/26/01	Sanchez	4:00	62	100%	23060	36	5:30	59	0.0%	23101	0	40.8	01308606	11490/11507
11/27/01	Sanchez	11:00	61	100%	23101	32	12:20	62	0.0%	23138	0	374.0	01308606	11507/11533
11/27/01	Sanchez	3:30	63	75%	23138	28	5:40	61	0.0%	23175	0	37.0	01308606	11533/11549
11/28/01	Sanchez	11:00	60	100%	23175	32	12:30	61	0.0%	23215	0	40.0	01308606	11549/11577
11/28/01	Sanchez	3:15	63	100%	23215	25	4:45	61	0.0%	23255	0	40.0	01308606	11577/11592
11/30/01	Sanchez	3:00	62	100%	23255	32	4:30	62	0.0%	23294	0	40.0	01308606	11592/11632
12/3/01	Sanchez	9:45	58	100%	23294	38	11:40	60	0.0%	23332	0	37.8	01308606	11632/11672
12/3/01	Sanchez	2:30	63	76%	23332	29	4:30	57	0.0%	23371	0	38.5	01308606	11672/11687
12/5/01	Sanchez	9:50		100%	23371	38	12:35		0.0%	23409	0	38.4	01308606	11678/11716
12/10/01	Sanchez	3:15	62	100%	23409	40	4:16	61	0.0%	23433	0	24.2	01308606	11716/11767
12/11/01	Sanchez	3:20	66	100%	23433	32	4:30	60	0.0%	23455	0	21.5	01308606	11767/11781
12/12/01	Sanchez	3:40	61	100%	23455	32	4:25	60	0.0%	23475	0	19.8	01308606	11781/11795
12/13/01	Sanchez	4:07	60	100%	23475	32	4:45	60	0.0%	23488	0	13.1	01308606	11795/11815
12/14/01	Sanchez	2:40	54	100%	23488	32	3:30	54	0.0%	23507	0	19.3	01308606	11815/

Comments (Dated):
