

Groundwater Sampling
Field Data Sheet for Multi-Port Well

Project Name: JPL Pasadena
Project No: 00HW019
Personnel: MES/TAM

Well ID: MW-3 Depth (ft.): 252
Sampling Zone No.: 2
Starting Time: 1454 Finishing Time: 1507

Date: 7/17/02

Water Pressure Inside MP Casing -
Beginning of Session: 14.10
End of Session: 14.18

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks							Water Quality Parameters					
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed	Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)	Conductivity (mmhos)
1	X	X	X	X	X	X	14.10	X	70.34	X	70.36	X	X	14.18	1513	8.53	-1	22.5	0.367
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR, NO ODOR

Total Volume: 1.5 LITERS

Groundwater Sampling
Field Data Sheet for Multi-Port Well

Project Name: JPL Pasadena
Project No: 00HW019
Personnel: MES TAM

Well ID: MW-3 Depth (ft.): 346
Sampling Zone No.: 3
Starting Time: 1425 Finishing Time: 1440

Date: 7/17/02

Water Pressure Inside MP Casing - Beginning of Session: 45.25
End of Session: 45.27

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks							Water Quality Parameters						
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)	Conductivity (mmhos)
1	X	X	X	X	X	X	45.25	X	111.26	X	111.28	X	X	45.27	1447	9.47	0	22.9	0.354	
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				

Notes: WATER IS CLEAR, NO ODOR

Total Volume: 1.5 Liter

Groundwater Sampling
Field Data Sheet for Multi-Port Well

Project Name: JPL Pasadena
Project No: 00HW019
Personnel: MES/TAM

Well ID: MW-3 Depth (ft.): 558
Sampling Zone No.: 4
Starting Time: 0939 Finishing Time: 1000

Date: 7/17/02

Water Pressure Inside MP Casing -
Beginning of Session: 137.61
End of Session: 137.62

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks							Water Quality Parameters					
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	137.61	X	198.90	X	198.86	X	X	137.62	1008	9.75	-2	20.4	0.258
2	X	X	X	X	X	X	137.05	X	198.61	X	199.33	X	X	137.05					
3	X	X	X	X	X	X	135.44	X	199.39	X	199.40	X	X	135.46					
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR WITH EFFERVESCENCE, NO ODOR
2ND RUN - DUPLICATE SAMPLE 3RD RUN - NOT ALL BOTTLES FILLED ON 2ND RUN
STARTING TIME - 1010 STARTING TIME - 1359
FINISHING TIME - 1353 FINISHING TIME - 1418

Total Volume: 1.5 LITERS
2ND RUN - 1.25 LITERS
3RD RUN - 0.50 LITER

Groundwater Sampling
Field Data Sheet for Multi-Port Well

Project Name: JPL Pasadena
Project No: 00HW019
Personnel: MES/TAM

Well ID: MW-3 Depth (ft.): 653
Sampling Zone No.: 5
Starting Time: 0907 Finishing Time: 0931

Date: 7/17/02

Water Pressure Inside MP Casing -
Beginning of Session: 177.35
End of Session: 177.36

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks							Water Quality Parameters					
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	177.35	X	240.01	X	239.89	X	X	177.36	0933	11.24	1	20.4	0.259
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR, NO ODIR, SLIGHT EFFERVESCENCE

Total Volume: 0.75 LITER

Groundwater Sampling
Field Data Sheet for Multi-Port Well

Project Name: JPL Pasadena
Project No: 00HW019
Personnel: MES TAN

Well ID: MW-4 Depth (ft.): 150
Sampling Zone No.: 1
Starting Time: 1126 Finishing Time: 1140

Date: 7/22/02

Water Pressure Inside MP Casing - Beginning of Session: 19.10
End of Session: 14.12

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks							Water Quality Parameters					
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locale Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	14.10	X	3655	X	3655	X	X	14.12	1148	8.57	-3	21.6	0.331
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR W/ NO ODR

Total Volume: 1.5 LITERS

Groundwater Sampling
Field Data Sheet for Multi-Port Well
Date: 7/22/12

Project Name: JPL Pasadena
Project No: 00HW019
Personnel: MES/TAM

Well ID: MW-4 Depth (ft.): 240
Sampling Zone No.: 2
Starting Time: 1055 Finishing Time: 1107
Beginning of Session: 19.43
End of Session: 19.45

Water Pressure Inside MP Casing -

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks								Water Quality Parameters				
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	19.43	X	74.14	X	74.15	X	X	19.45	11/7	8.84	0	22.5	0.93
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR W/ NO ODOUR

Total Volume: 1.5 LITERS

Groundwater Sampling
Field Data Sheet for Multi-Port Well

Date: 7/22/02

Project Name: JPL Pasadena
Project No: 00HW019
Personnel: MCS/TAM

Well ID: MW-4 Depth (ft.): 322
Sampling Zone No.: 3
Starting Time: 1012 Finishing Time: 1029

Water Pressure Inside MP Casing -
Beginning of Session: 55.20
End of Session: 55.21

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks								Water Quality Parameters				
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	55.20	X	109.68	X	109.70	X	X	55.21	1037	7.77	23	22.2	0.378
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER HAS A YELLOW/BROWN TINT, NO ODOR, SLIGHT EFFERVESCENCE

Total Volume: 1.5 LITERS

Groundwater Sampling
 Field Data Sheet for Multi-Port Well
 Date: 7/22/02

Project Name: JPL Pasadena Well ID: MW-4 Depth (ft.): 392
 Project No: 00HW019 Sampling Zone No.: 4
 Personnel: MCS/TAM Starting Time: 0942 Finishing Time: 1002
 Water Pressure Inside MP Casing - Beginning of Session: 85.21
 End of Session: 85.23

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks							Water Quality Parameters					
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	85.21	X	139.61	X	139.60	X	X	85.23	1007	8.88	22	21.8	0.375
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR W/ SLIGHT EFFERVESCENCE, NO ODOR

Total Volume: 1.25 LITERS

Groundwater Sampling
Field Data Sheet for Multi-Port Well
Date: 7/22/02

Project Name: JPL Pasadena Well ID: MW-4 Depth (ft.): 513
 Project No: 00HW019 Sampling Zone No.: 5
 Personnel: MES/TAM Starting Time: 0911 Finishing Time: 0934
 Beginning of Session: 137.90
 End of Session: 137.91

Water Pressure Inside MP Casing -

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks								Water Quality Parameters				
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	137.90	X	191.97	X	191.98	X	X	137.91	0938	8.73	29	21.3	0.335
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER HAS A GREY/PINK TINT, NO O₂R

Total Volume: 1.25 LITERS

Groundwater Sampling
Field Data Sheet for Multi-Port Well

Date: 7/15/02

Project Name: JPL Pasadena Well ID: MW-11 Depth (ft.): 149
 Project No: 00HW019 Sampling Zone No.: 1
 Personnel: MES/TAM Starting Time: 1220 Finishing Time: 1238
 Beginning of Session: 14.08
 End of Session: 14.11

Water Pressure Inside MP Casing -

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks								Water Quality Parameters				
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	14.08	X	26.10	X	26.11	X	X	14.11	1244	9.08	5	22.8	0.442
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR, NO ODOR

Total Volume: 1.5 LITERS

Groundwater Sampling
Field Data Sheet for Multi-Port Well
Date: 7/15/02

Project Name: JPL Pasadena Well ID: MW-11 Depth (ft.): 259
 Project No: 00HW019 Sampling Zone No.: 2
 Personnel: MES/TAM Starting Time: 1155 Finishing Time: 1209
 Beginning of Session: 14.12
 End of Session: 14.16

Water Pressure Inside MP Casing -

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks							Water Quality Parameters					
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	14.12	X	6.92	X	6.89	X	X	14.16	1219	9.18	4	23.0	0.344
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR, NO ODOR

Total Volume: 1.25 LITERS

Groundwater Sampling
Field Data Sheet for Multi-Port Well
Date: 7/15/02

Project Name: JPL Pasadena
Project No: 00HW019
Personnel: MCS | TAM

Well ID: MW-11 Depth (ft.): 429
Sampling Zone No.: 3
Starting Time: 1049 Finishing Time: 1118

Water Pressure Inside MP Casing -
Beginning of Session: 92.84
End of Session: 82.29

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks								Water Quality Parameters				
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	82.94	X	133.69	X	133.62	X	X	82.95	1123	9.33	138	20.9	0.316
2	X	X	X	X	X	X	82.27	X	133.64	X	133.58	X	X	82.29					
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR, NO ODOUR
MSD SAMPLE - STARTING TIME FOR SECOND RUN - 1129
FINISHING TIME - 1148

Total Volume: 1.5 LITERS
2ND RUN - 1.25 LITERS

Groundwater Sampling
Field Data Sheet for Multi-Port Well
Date: 7/15/02

Project Name: JPL Pasadena
Project No: 00HW019
Personnel: MES/TAM

Well ID: MW-11 Depth (ft.): 524
Sampling Zone No.: 4
Starting Time: 1012 Finishing Time: 1038

Water Pressure Inside MP Casing -
Beginning of Session: 122.76
End of Session: 122.78

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks							Water Quality Parameters					
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	122.76	X	176.98	X	176.95	X	X	122.78	1043	10.05	-5	20.8	0.187
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR, NO ODOR

Total Volume: 1.0 LITER

Groundwater Sampling
Field Data Sheet for Multi-Port Well

Project Name: JPL Pasadena
Project No: 00HW019
Personnel: MGS/TAM

Well ID: MW-12 Depth (ft.): 140
Sampling Zone No.: 1
Starting Time: 12:18 Finishing Time: 12:34

Date: 7/8/02

Water Pressure Inside MP Casing -
Beginning of Session: 14.06
End of Session: 14.08

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks								Water Quality Parameters				
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Local Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	14.06	X	25.85	X	25.84	X	X	14.08	1239	8.99	9	24.4	0.405
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: No NOTICABLE COLOR OR ODOR

Total Volume: 1.5 LITERS

Groundwater Sampling
Field Data Sheet for Multi-Port Well

Project Name: JPL Pasadena
Project No: 00HW019
Personnel: MCSITAM

Well ID: MW-12 Depth (ft.): 243
Sampling Zone No.: 2
Starting Time: 1152 Finishing Time: 1208

Date: 7/8/02

Water Pressure Inside MP Casing - Beginning of Session: 14.12
End of Session: 14.16

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks							Water Quality Parameters					
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Sel Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	14.12	X	68.34	X	68.34	X	X	14.16	1213	8.93	-1	24.1	0.390
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR / NO OPOB

Total Volume: 1.5 Liters

Groundwater Sampling
Field Data Sheet for Multi-Port Well
Date: 7/8/02

Project Name: JPL Pasadena
Project No: 00HW019
Personnel: MCS/TAM

Well ID: MW-12 Depth (ft.): 323
Sampling Zone No.: 3
Starting Time: 1059 Finishing Time: 1115

Water Pressure Inside MP Casing -
Beginning of Session: 43.48
End of Session: 43.56

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks								Water Quality Parameters				
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	43.48	X	102.70	X	102.71	X	X	43.56	1123	8.95	6	21.8	0.323
2	X	X	X	X	X	X	43.29	X	102.69	X	102.71	X	X	43.35					
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR NO ODOUR
SECOND RUN IS A DUPLICATE SAMPLE
STARTING TIME 1129. FINISHING TIME 1146

Total Volume: 1.5 LITERS
SECOND RUN - 1.25 LITERS

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project Name: JPL Pasadena
 Project No: 00HW019
 Personnel: MES/TAM

Well ID: MW-12 Depth (ft.): 436
 Sampling Zone No.: 4
 Starting Time: 1025 Finishing Time: 1046

Date: 7/8/02

Water Pressure Inside MP Casing - Beginning of Session: 92.47
 End of Session: 92.49

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks								Water Quality Parameters				
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	92.47	X	151.38	X	151.31	X	X	92.49	1054	8.80	0	20.9	0.383
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR / NO ODOR

Total Volume: 1.5 LITERS

Groundwater Sampling
Field Data Sheet for Multi-Port Well

Date: 7/8/02

Project Name: JPL Pasadena
Project No: 00HW019
Personnel: MES ITAM

Well ID: MW-12 Depth (ft.): 548
Sampling Zone No.: 5
Starting Time: 0945 Finishing Time: 1013

Water Pressure Inside MP Casing -
Beginning of Session: 140.69
End of Session: 140.71

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks								Water Quality Parameters					
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)	Conductivity (mmhos)
1	X	X	X	X	X	X	140.68	X	196.92	X	196.88	X	X	140.71	1020	9.17	36	22.4	0.324	
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				

Notes: WATER IS CLEAR / NO ODOUR

Total Volume: 1.25 LITERS

Groundwater Sampling
Field Data Sheet for Multi-Port Well

Project Name: JPL Pasadena
Project No: 00HW019
Personnel: MES/TAM

Well ID: MW-14 Depth (ft.): 207
Sampling Zone No.: 1
Starting Time: 0958 Finishing Time: 1015
Beginning of Session: 14.12
End of Session: 14.15

Date: 7/12/02

Water Pressure Inside MP Casing -

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks								Water Quality Parameters				
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	14.12	X	27.06	X	27.05	X	X	14.15	1021	8.02	-2	23.6	1.20
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR WITH NO ODOOR

Total Volume: 1.5 LITERS

Groundwater Sampling
 Field Data Sheet for Multi-Port Well
 Date: 7/12/02

Project Name: JPL Pasadena
 Project No: 00HW019
 Personnel: MES/TAM

Well ID: NW-14 Depth (ft.): 277
 Sampling Zone No.: 2
 Starting Time: 0931 Finishing Time: 0947

Water Pressure Inside MP Casing -
 Beginning of Session: 26.92
 End of Session: 26.93

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks								Water Quality Parameters				
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed	Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)	Conductivity (mmhos)
1	X	X	X	X	X	X	26.92	X	57.02	X	57.04	X	X	26.93	0952	8.38	-3	21.5	1.12
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR, NO ODOR

Total Volume: 1.5 LITERS

Groundwater Sampling
 Field Data Sheet for Multi-Port Well
 Date: 7/12/02

Project Name: JPL Pasadena Well ID: MW-14 Depth (ft.): 382
 Project No: 00HW019 Sampling Zone No.: 3
 Personnel: MES/TAM Starting Time: 0902 Finishing Time: 0920
 Beginning of Session: 72.70
 End of Session: 72.72

Water Pressure Inside MP Casing -

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks								Water Quality Parameters				
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	72.70	X	102.43	X	102.44	X	X	72.72	0925	8.89	~2	21.3	0.98
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR, NO ODOR

Total Volume: 1.5 LITERS

Groundwater Sampling
Field Data Sheet for Multi-Port Well
Date: 7/12/02

Project Name: JPL Pasadena Well ID: MW-14 Depth (ft.): 456
 Project No: 00HW019 Sampling Zone No.: 4
 Personnel: MES/TAM Starting Time: 0757 Finishing Time: 0823
 Water Pressure Inside MP Casing - Beginning of Session: 165.00
 End of Session: 105.00

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks								Water Quality Parameters				
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	105.00	X	134.49	X	134.50	X	X	105.00	0832	9.11	-3	21.0	0.465
2	X	X	X	X	X	X	104.45	X	134.47	X	134.47	X	X	104.45					
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR W/ SLIGHT EFFERVESCENCE, NO ODOR
2ND RUN STARTING TIME: 0833
FINISHING TIME 0856
DUPLICATE SAMPLE

Total Volume: 1.5 LITERS
 2ND RUN - 1.25 LITERS

Groundwater Sampling
Field Data Sheet for Multi-Port Well
Date: 7/12/02

Project Name: JPL Pasadena Well ID: MW-14 Depth (ft.): 540
 Project No: 00HW019 Sampling Zone No.: 5
 Personnel: MCS/TAM Starting Time: 0726 Finishing Time: 0749
 Water Pressure Inside MP Casing - Beginning of Session: 140.60
 End of Session: 140.60

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks							Water Quality Parameters					
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	140.60	X	170.72	X	170.74	X	X	140.60	0753	9.25	-2	20.5	0.249
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR, NO ODOUR

Total Volume: 1.0 LITER

Groundwater Sampling
Field Data Sheet for Multi-Port Well

Project Name: JPL Pasadena
Project No: 00HW019
Personnel: MCS/TAM

Well ID: MW-17 Depth (ft.): 370
Sampling Zone No.: 2
Starting Time: 1230 Finishing Time: 1248

Date: 7/11/02

Water Pressure Inside MP Casing -
Beginning of Session: 14.65
End of Session: 14.69

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks								Water Quality Parameters				
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	14.65	X	78.25	X	78.26	X	X	14.69	1253	8.87	-10	18.5	0.320
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR, NO ODR

Total Volume: 1.5 LITERS

Groundwater Sampling
 Field Data Sheet for Multi-Port Well
 Date: 7/11/02

Project Name: JPL Pasadena Well ID: MW-17 Depth (ft.): 468
 Project No: 00HW019 Sampling Zone No.: 3
 Personnel: MES/TAM Starting Time: 1157 Finishing Time: 1218
 Water Pressure Inside MP Casing - Beginning of Session: 57.47
 End of Session: _____

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks							Water Quality Parameters					
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	57.47	X	117.49	X	117.40	X	X	57.46	1224	8.98	-10	19.9	0.348
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR, NO ODOR

Total Volume: 1.5 LITERS

Groundwater Sampling
Field Data Sheet for Multi-Port Well
Date: 7/11/02

Project Name: JPL Pasadena
Project No: 00HW019
Personnel: MES/TAM

Well ID: MW-17 Depth (ft.): 582
Sampling Zone No.: 4
Starting Time: 1048 Finishing Time: 1114

Water Pressure Inside MP Casing -
Beginning of Session: 107.14
End of Session: 107.16

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks								Water Quality Parameters				
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	107.14	X	168.93	X	168.91	X	X	107.16	1124	9.16	-10	18.8	0.278
2	X	X	X	X	X	X	106.61	X	168.85	X	168.83	X	X	106.62					
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR, NO ODOR
2ND RUN - NS/MSD - STARTING TIME - 1119
FINISHING TIME - 1148

Total Volume: 1.5 LITERS
2ND RUN - 1.25 LITERS

Groundwater Sampling
Field Data Sheet for Multi-Port Well

Project Name: JPL Pasadena Well ID: MW-17 Depth (ft.): 726
 Project No: 00HW019 Sampling Zone No.: 5
 Personnel: MES/TAM Starting Time: 1009 Finishing Time: 1034
 Beginning of Session: 168.71
 End of Session: 168.74

Date: 7/11/02

Water Pressure Inside MP Casing -

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks							Water Quality Parameters					
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	168.71	X	232.36	X	232.37	X	X	168.74	1043	9.10	-10	20.3	0.267
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR, NO ODOR

Total Volume: 1.0 LITER

Groundwater Sampling
Field Data Sheet for Multi-Port Well

Project Name: JPL Pasadena
Project No: 00HW019
Personnel: MES/TAM

Well ID: MW-18 Depth (ft.): 330
Sampling Zone No.: 2
Starting Time: 0934 Finishing Time: 0953

Date: 7/3/02

Water Pressure Inside MP Casing - Beginning of Session: 14.14
End of Session: 14.16

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks								Water Quality Parameters				
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Am Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	14.14	X	47.27	X	47.27	X	X	14.16	0958	9.12	-3	20.3	0.379
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: SLIGHT EFFERESCENCE IN WATER / NO ADJ

Total Volume: 1.5 LITERS

Groundwater Sampling
Field Data Sheet for Multi-Port Well

Project Name: JPL Pasadena Well ID: MW-18 Depth (ft.): 424
 Project No: 00HW019 Sampling Zone No.: 3
 Personnel: MCS | TAM Starting Time: 0854 Finishing Time: 0914
 Beginning of Session: 37.78
 End of Session: 37.79
 Water Pressure Inside MP Casing -

Date: 7/3/02

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks								Water Quality Parameters				
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	37.78	X	88.20	X	88.20	X	X	37.79	0922	8.98	-3	18.9	0.440
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: SLIGHT EFFERVESCENCE IN WATER NO UDR

Total Volume: 1.5 LITERS

Groundwater Sampling
Field Data Sheet for Multi-Port Well

Project Name: JPL Pasadena
Project No: 00HW019
Personnel: MES | TAM

Well ID: MW-18 Depth (ft.): 564
Sampling Zone No.: 4
Starting Time: 0821 Finishing Time: 0844
Beginning of Session: 98.81
End of Session: 98.82

Date: 7/3/02

Water Pressure Inside MP Casing -

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks							Water Quality Parameters					
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	98.81	X	146.11	X	146.11	X	X	98.82	0850	9.21	-2	19.5	0.338
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: SLIGHT EFFERVESCENCE IN WATER | No odor.

Total Volume: 1.5 LITERS

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Date: 7/3/02

Project Name: JPL Pasadena
 Project No: 00HW019
 Personnel: MES/TAM

Well ID: MW-18 Depth (ft.): 684
 Sampling Zone No.: 5
 Starting Time: 0739

Finishing Time: ~~0739~~ 0808

Water Pressure Inside MP Casing - Beginning of Session: 151.09
 End of Session: 151.09

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks								Water Quality Parameters				
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	151.09	X	197.16	X	197.13	X	X	151.09	0814	9.27	-1	19.7	0.248
2							151.09												
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: SLIGHT EFFERESCENCE IN WATER / NO ODOR

Total Volume: 1.5 LITERS

Groundwater Sampling
Field Data Sheet for Multi-Port Well

Project Name: JPL Pasadena Well ID: MW-19 Depth (ft.): 242
 Project No: 00HW019 Sampling Zone No.: 1
 Personnel: MES/TAM Starting Time: 0920 Finishing Time: 0936
 Beginning of Session: 14.07
 End of Session: 14.12
 Water Pressure Inside MP Casing -

Date: 7/9/02

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks								Water Quality Parameters				
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	14.07	X	45.83	X	45.82	X	X	14.12	0941	8.37	-9	23.5	0.287
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: SLIGHT YELLOW/BROWN TINT IN WATER, NO ODOR

Total Volume: 1.0 LITER

Groundwater Sampling
Field Data Sheet for Multi-Port Well
Date: 7/9/02

Project Name: JPL Pasadena Well ID: MW-19 Depth (ft.): 314
 Project No: 00HW019 Sampling Zone No.: 2
 Personnel: MES/TAM Starting Time: 0859 Finishing Time: 0916
 Water Pressure Inside MP Casing - Beginning of Session: 14.13
 End of Session: 14.19

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks								Water Quality Parameters				
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Am Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	14.13	76.72	76.72	X	76.73	X	X	14.19	0918	8.00	-10	21.4	0.95
2								X											
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR, NO ODOOR

Total Volume: 1.0 LITER

Groundwater Sampling
Field Data Sheet for Multi-Port Well

Project Name: JPL Pasadena Well ID: MW-19 Depth (ft.): 392
 Project No: 00HW019 Sampling Zone No.: 3
 Personnel: MES/TAM Starting Time: 0831 Finishing Time: 0849
 Water Pressure Inside MP Casing - Beginning of Session: 34.94
 End of Session: 34.95

Date: 7/9/02

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks							Water Quality Parameters						
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)	Conductivity (mmhos)
1	X	X	X	X	X	X	34.94	X	110.90	X	110.91	X	X	34.95	0855	8.13	-10	21.1	0.96	
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				

Notes: SLIGHT BROWN TINT IN WATER, NO ODOR

Total Volume: 1.25
1.0 LITER

Groundwater Sampling
Field Data Sheet for Multi-Port Well

Project Name: JPL Pasadena
Project No: 00HW019
Personnel: MES/TAM

Well ID: MW-19 Depth (ft.): 444
Sampling Zone No.: 4
Starting Time: 0754 Finishing Time: 0815

Date: 7/9/02

Water Pressure Inside MP Casing - Beginning of Session: 59.17
End of Session: 59.17

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks								Water Quality Parameters				
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	59.17	X	132.35	X	132.36	X	X	59.17	0821	9.48	-10	20.4	0.304
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR, NO ODOOR, SLIGHT EFFERVESCENCE.

Total Volume: 1.5 LITERS

Groundwater Sampling
Field Data Sheet for Multi-Port Well

Project Name: JPL Pasadena
Project No: 00HW019
Personnel: MCS/TAM

Well ID: MW-19 Depth (ft.): 498
Sampling Zone No.: 5
Starting Time: 0709 Finishing Time: 0745

Date: 7/9/02

Water Pressure Inside MP Casing -
Beginning of Session: 81.21
End of Session: 81.21

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks								Water Quality Parameters				
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe in	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	81.21	X	155.74	X	155.76	X	X	81.21	0750	9.10	10	20.6	0.494
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR, SLIGHT EFFERVESCENCE, NO ODR

Total Volume: 1.25 LITERS

Groundwater Sampling
Field Data Sheet for Multi-Port Well
Date: 7/10/02

Project Name: JPL Pasadena Well ID: MW-20 Depth (ft.): 230
 Project No: 00HW019 Sampling Zone No.: 1
 Personnel: MES/TMM Starting Time: 1427 Finishing Time: 1447
 Beginning of Session: 15.01
 End of Session: 15.08

Water Pressure Inside MP Casing -

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks							Water Quality Parameters					
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed	Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)	Conductivity (mmhos)
1	X	X	X	X	X	X	15.01	X	22.18	X	22.19	X	X	15.08	1452	8.35	4	21.6	0.630
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR, NO ODOR

Total Volume: 1.5 LITERS

Groundwater Sampling
Field Data Sheet for Multi-Port Well

Project Name: JPL Pasadena Well ID: MW-20 Depth (ft.): 392
 Project No: 00HW019 Sampling Zone No.: 2
 Personnel: MES/TAM Starting Time: 1358 Finishing Time: 1417
 Water Pressure Inside MP Casing - Beginning of Session: 85.65
 End of Session: 85.67

Date: 7/10/02

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks							Water Quality Parameters					
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	85.65	X	92.65	X	92.68	X	X	85.67	1423	8.54	-5	21.8	0.311
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR, NO ODOR

Total Volume: 1.5 LITERS

Groundwater Sampling
Field Data Sheet for Multi-Port Well

Project Name: JPL Pasadena Well ID: MW-20 Depth (ft.): 562
 Project No: 00HW019 Sampling Zone No.: 3
 Personnel: MES/TAM Starting Time: 1321 Finishing Time: 1347
 Water Pressure Inside MP Casing - Beginning of Session: 159.60
 End of Session: 159.61

Date: 7/10/02

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks								Water Quality Parameters				
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Local Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe in	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	159.60	X	159.92	X	159.92	X	X	159.61	1352	9.13	-3	23.0	0.435
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR WITH A SLIGHT EFFERVESCENCE, NO O₂ OR

Total Volume: 1.5 LITERS

Groundwater Sampling
Field Data Sheet for Multi-Port Well

Project Name: JPL Pasadena
Project No: 00HW019
Personnel: MES/TAM

Well ID: MW-20 Depth (ft.): 300
Sampling Zone No.: 4
Starting Time: 1034 Finishing Time: 1102

Date: 7/10/02

Water Pressure Inside MP Casing - Beginning of Session: 219.70
End of Session: 219.71

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks							Water Quality Parameters					
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Sel Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	219.70	X	225.45	X	225.41	X	X	219.71	1112	9.42	0	21.5	0.264
2	X	X	X	X	X	X	219.13	X	225.43	X	225.38	X	X	219.12					
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR W/ SLIGHT EFFERVESCENCE, NO ODOR

SECOND RUN - STARTING TIME - 1118

FINISHING TIME - 1140

Total Volume: 1.5 LITERS

2ND RUN 1.25 LITERS

Groundwater Sampling
Field Data Sheet for Multi-Port Well

Project Name: JPL Pasadena
Project No: 00HW019
Personnel: MES/TAM

Well ID: MW-20 Depth (ft.): 900
Sampling Zone No.: 5
Starting Time: 0944 Finishing Time: 1021
Beginning of Session: 306.67
End of Session: _____

Date: 7/10/02

Water Pressure Inside MP Casing -

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks								Water Quality Parameters				
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	306.67	X	316.99	X	316.99	X	X	306.66	1028	10.57	22	21.8	0.284
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR WITH A SLIGHT EFFERVESCENCE / NO ODOR

Total Volume: 1.5 LITERS

Groundwater Sampling
Field Data Sheet for Multi-Port Well

Project Name: JPL Pasadena Well ID: MW-21 Depth (ft.): 90
 Project No: 00HW019 Sampling Zone No.: 1
 Personnel: MES TAM Starting Time: 1211 Finishing Time: 1240
 Water Pressure Inside MP Casing - Beginning of Session: 14.12
 End of Session: 14.15

Date: 7/2/02

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks							Water Quality Parameters					
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	14.12	X	24.09	X	24.11	X	X	14.15	1245	7.71	-3	24.2	0.94
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR/NO ODOR

Total Volume: 1 LITER

Groundwater Sampling
 Field Data Sheet for Multi-Port Well
 Date: 7/2/02

Project Name: JPL Pasadena
 Project No: 00HW019
 Personnel: MCS/TAM

Well ID: MW-21 Depth (ft.): 161
 Sampling Zone No.: 2
 Starting Time: 1150 Finishing Time: 1203

Water Pressure Inside MP Casing - Beginning of Session: 39.61
 End of Session: 39.64

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks								Water Quality Parameters				
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	39.61	X	55.29	X	55.29	X	X	39.64	1209	8.23	-4	21.3	1.24
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR / NO ODOUR

Total Volume: 1 LITER

Groundwater Sampling
Field Data Sheet for Multi-Port Well

Project Name: JPL Pasadena Well ID: MW-21 Depth (ft.): 240
 Project No: 00HW019 Sampling Zone No.: 3
 Personnel: MES/TAM Starting Time: 1129 Finishing Time: 11.41
 Beginning of Session: 74.12
 End of Session: 74.15
 Water Pressure Inside MP Casing -

Date: 2/7/02
7/2/02

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks							Water Quality Parameters					
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Am Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	74.12	89.49	89.49	X	89.49	X	X	74.15	1145	8.54	-3	21.2	0.896
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR / NO ODOR

Total Volume: 1 LITER

Groundwater Sampling
Field Data Sheet for Multi-Port Well

Project Name: JPL Pasadena
Project No: 00HW019
Personnel: MES/TAM

Well ID: MW-21 Depth (ft.): 310
Sampling Zone No.: 4
Starting Time: 1102 Finishing Time: 1118
Beginning of Session: 104.24
End of Session: 104.27

Date: 7/2/02

Water Pressure Inside MP Casing -

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks							Water Quality Parameters					
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	104.24	X	119.38	X	119.39	X	X	104.27	1122	8.58	-2	21.1	0.578
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR / NO ODOR

Total Volume: 1 LITER

Groundwater Sampling
Field Data Sheet for Multi-Port Well

Project Name: JPL Pasadena Well ID: MW-21 Depth (ft.): 372
 Project No: 00HW019 Sampling Zone No.: 5
 Personnel: MES/TAM Starting Time: 1025 Finishing Time: 1051

Date: 7/2/02

Water Pressure Inside MP Casing - Beginning of Session: 131.90
 End of Session: 131.93

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks							Water Quality Parameters					
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	131.80	X	146.25	X	146.24	X	X	131.83	1058	8.94	2	21.3	0.668
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR/ NO ODOR

Total Volume: 1.25 LITERS

Groundwater Sampling
Field Data Sheet for Multi-Port Well
Date: 7/16/02

Project Name: JPL Pasadena Well ID: NW-22 Depth (ft.): 245
 Project No: 00HW019 Sampling Zone No.: 1
 Personnel: MES/TAM Starting Time: 0823 Finishing Time: 0840
 Water Pressure Inside MP Casing - Beginning of Session: 14.11
 End of Session: 14.16

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks							Water Quality Parameters					
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	14.11	X	39.61	X	39.61	X	X	14.16	0846	8.38	-10	20.5	1.11
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER HAS SLIGHT LIGHT BROWN TINT, NO ODOR

Total Volume: 1.5 LITERS

Groundwater Sampling
Field Data Sheet for Multi-Port Well
Date: 7/16/02

Project Name: JPL Pasadena Well ID: MW-22 Depth (ft.): 329
 Project No: 00HW019 Sampling Zone No.: 2
 Personnel: MES/TAM Starting Time: 0757 Finishing Time: 0813
 Beginning of Session: 21.49
 End of Session: 21.51

Water Pressure Inside MP Casing -

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks							Water Quality Parameters					
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	21.49	X	76.07	X	76.07	X	X	21.51	0818	9.18	-10	20.5	0.444
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR, No ODOR

Total Volume: 1.5 LITERS

Groundwater Sampling
Field Data Sheet for Multi-Port Well

Project Name: JPL Pasadena
Project No: 00HW019
Personnel: MES/TAM

Well ID: MW-22 Depth (ft.): 389
Sampling Zone No.: 3
Starting Time: 0725 Finishing Time: 0743
Beginning of Session: 47.64
End of Session: 47.64

Date: 2/16/02

Water Pressure Inside MP Casing -

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks							Water Quality Parameters					
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	47.64	X	102.15	X	102.14	X	X	47.64	0749	9.19	-10	20.6	0.424
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR WITH SLIGHT EFFERVESCENCE, NO ODOR

Total Volume: 1.5 LITERS

Groundwater Sampling
Field Data Sheet for Multi-Port Well

Date: 7/16/02

Project Name: JPL Pasadena
Project No: 00HW019
Personnel: MES/TAM

Well ID: MW-22 Depth (ft.): 467

Sampling Zone No.: 4
Starting Time: 0700 Finishing Time: 0718

Water Pressure Inside MP Casing - Beginning of Session: 80.12
End of Session: 80.10

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks								Water Quality Parameters				
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	80.12	X	134.45	X	134.44	X	X	80.10	0721	8.63	-10	20.6	0.281
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR WITH SLIGHT EFFERVESCENCE, NO ODOR

Total Volume: 0.75 LITER

Groundwater Sampling
Field Data Sheet for Multi-Port Well
Date: 7/18/02

Project Name: JPL Pasadena Well ID: NW-23 Depth (ft.): 174
 Project No: 00HW019 Sampling Zone No.: 1
 Personnel: MESTAN Starting Time: 0906 Finishing Time: 0942
 Water Pressure Inside MP Casing - Beginning of Session: 14.15
 End of Session: 14.18

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks							Water Quality Parameters					
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	14.15	X	37.57	X	37.57	X	X	14.18	0949	8.26	19	20.9	1.11
2									37.56										
3	X	X	X	X	X	X	14.13	X	37.57	X	37.56	X	X	14.17					
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR, NO ODOR
2ND RUN STARTING TIME 0950
FINISHING TIME - 0957

Total Volume: 1.25 LITERS

Groundwater Sampling
 Field Data Sheet for Multi-Port Well
 Date: 7/18/02

Project Name: JPL Pasadena Well ID: MW-23 Depth (ft.): 254
 Project No: 00HW019 Sampling Zone No.: 2
 Personnel: MES TAM Starting Time: 0844 Finishing Time: 0856
 Beginning of Session: 34.64
 End of Session: 34.64
 Water Pressure Inside MP Casing -

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks							Water Quality Parameters					
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Local Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	34.64	X	71.59	X	71.59	X	X	34.64	0900	8.63	32	20.7	0.94
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR, NO ODOR

Total Volume: 1.25 LITERS

Groundwater Sampling
Field Data Sheet for Multi-Port Well
Date: 7/18/02

Project Name: JPL Pasadena Well ID: NW-23 Depth (ft.): 319
 Project No: 00HW019 Sampling Zone No.: 3
 Personnel: MES TAM Starting Time: 0820 Finishing Time: 0835
 Beginning of Session: 62.92
 End of Session: 62.95

Water Pressure Inside MP Casing -

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks							Water Quality Parameters					
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	62.92	X	99.76	X	99.76	X	X	62.95	0839	8.85	-4	20.8	0.373
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR WITH SLIGHT EFFERVESCENCE, NO ODOOR

Total Volume: 1.25 LITERS

Groundwater Sampling
Field Data Sheet for Multi-Port Well
Date: 7/18/02

Project Name: JPL Pasadena Well ID: MW-23 Depth (ft.): 445
 Project No: 00HW019 Sampling Zone No.: 4
 Personnel: MES/TAM Starting Time: 0728 Finishing Time: 0745
 Water Pressure Inside MP Casing - Beginning of Session: 117.76
 End of Session: 117.75

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks							Water Quality Parameters					
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	117.76	X	152.80	X	152.81	X	X	117.75	0749	9.37	-4	20.2	0312
2	X	X	X	X	X	X	117.73	X	152.80	X	152.80	X	X	117.73					
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR, NO ODOR
MS/MSD
2ND RUN STARTING TIME - 0754
FINISHING TIME - 0818

Total Volume: 1.5 LITERS

Groundwater Sampling
Field Data Sheet for Multi-Port Well

Date: 7/18/02

Project Name: JPL Pasadena
Project No: 00HW019
Personnel: NES TAM

Well ID: MW-23 Depth (ft.): 542
Sampling Zone No.: 5
Starting Time: 0655 Finishing Time: 0721

Water Pressure Inside MP Casing -
Beginning of Session: 158.91
End of Session: 158.92

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks								Water Quality Parameters				
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed	Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)	Conductivity (mmhos)
1	X	X	X	X	X	X	158.91	X	194.66	X	194.56	X	X	158.92	0723	10.88	-1	20.2	0.353
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR WITH SLIGHT EFFERVESCENCE, NO ODOR

Total Volume: 0.75 LITER

Groundwater Sampling
Field Data Sheet for Multi-Port Well
Date: 7/19/02

Project Name: JPL Pasadena Well ID: MW-24 Depth (ft.): 279
 Project No: 00HW019 Sampling Zone No.: 1
 Personnel: MES/TAM Starting Time: 1045 Finishing Time: 1100
 Beginning of Session: 14.08
 Water Pressure Inside MP Casing - End of Session: 14.14

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks								Water Quality Parameters				
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	14.08	X	42.88	X	42.87	X	X	14.14	1106	8.89	-8	23.0	0.400
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR w/ NO ODOUR

Total Volume: 1.5 LITERS

Groundwater Sampling
Field Data Sheet for Multi-Port Well

Date: 7/19/02

Project Name: JPL Pasadena
Project No: 00HW019
Personnel: MES/TAM

Well ID: MW-24 Depth (ft.): 373
Sampling Zone No.: 2
Starting Time: 1019 Finishing Time: 1035

Water Pressure Inside MP Casing - Beginning of Session: 36.59
End of Session: 36.61

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks								Water Quality Parameters				
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed	Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)	Conductivity (mmhos)
1	X	X	X	X	X	X	36.59	X	82.64	X	82.64	X	X	36.61	1040	9.53	-10	22.1	0.325
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR W/ NO ODOOR

Total Volume: 1.5 LITERS

Groundwater Sampling
Field Data Sheet for Multi-Port Well

Project Name: JPL Pasadena Well ID: MW-24 Depth (ft.): 435
 Project No: 00HW019 Sampling Zone No.: 3
 Personnel: MES/TAM Starting Time: 0918 Finishing Time: 0935

Date: 7/19/20

Water Pressure Inside MP Casing - Beginning of Session: 63.66
 End of Session: 63.66

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks							Water Quality Parameters					
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed		Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)
1	X	X	X	X	X	X	63.66	X	109.34	X	109.34	X	X	63.66	0944	10.38	-9	22.1	0.287
2	X	X	X	X	X	X	63.62	X	109.32	X	109.34	X	X	63.63					
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR W/ SLIGHT EFFERVESCENCE, NO ODO2
2ND RUN - MS/MSD - STARTING TIME - 0948
FINISHING TIME - 1010

Total Volume: 1.5 LITERS
2ND RUN - 1.5 LITERS

Groundwater Sampling
Field Data Sheet for Multi-Port Well
Date: 7/19/02

Project Name: JPL Pasadena Well ID: NW-24 Depth (ft.): 554
 Project No: 00HW019 Sampling Zone No.: 4
 Personnel: UES/TAM Starting Time: 0847 Finishing Time: 0908
 Beginning of Session: 114.90
 End of Session: 114.91
 Water Pressure Inside MP Casing -

Run No.	Surface Function Checks					Position Sampler	Sample Collection Checks								Water Quality Parameters				
	Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed	Deactivate Set Arm Locate Port	Pressure in MP	Shoe out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turbidity (NTU)	Temperature (°C)	Conductivity (mmhos)
1	X	X	X	X	X	X	114.90	X	159.50	X	159.51	X	X	114.91	0911	10.26	-10	21.5	0.232
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Notes: WATER IS CLEAR W/ SLIGHT EFFERVESCENCE, NO ODOR

Total Volume: 1.25 LITERS

WELL DEVELOPMENT AND SAMPLING LOG

Project Name: JPL Pasadena Well ID: MW-5
 Project No: 00HW019 Equipment: GRUNDFOS RED-FLO 2
 Date: 7/24/02 DEDICATED SUBM. PUMP
 Personnel: MCS/TAM Contractor: SOTA

	Before	Ref. Point	After
Depth to Water (ft.)	86.91	TOC	87.03
Depth to Sediment (ft.)	—		—
Thickness of Sediment (ft.)	—		—

Depth of Well (ft.) 140
 Diameter of Casing (ft.) 0.33
 Water Column Height (ft.) 53.09
 Casing Volume (gal.) = $\pi(\text{Casing Diam. [ft.]}^2 \cdot \text{Water Column Ht. [ft.]}) \cdot 7.48 \text{ gal./ft}^3 =$ 35
 (for 4" diam. casing - 0.653 gal./ft) Casing Volumes Purged 3
 Total Volume Purged (gal.) 105

Time	Pump Rate (gpm)	Volume Purged (gal.)	pH	Turbidity (NTU)	Temperature (°C)	Conductivity (mS/cm)	Comments
1030	2.0	—	—	—	—	—	Pump @ 792'
1032		4	7.90	3	18.2	0.262	
1039		18	7.58	0	18.0	0.266	GW @ 87.03'
1046		32	7.67	0	17.7	0.274	
1054		48	7.46	1	17.8	0.281	
2100/1101		62	7.38	0	17.8	0.284	
1109		78	7.28	3	17.7	0.294	
1115		90	7.29	1	17.7	0.294	
1123		104	7.23	1	17.4	0.297	

Notes: WATER IS CLEAR - NO ODOR
SAMPLED @ 11:23

WELL DEVELOPMENT AND SAMPLING LOG

Project Name: JPL Pasadena Well ID: MW-6
 Project No: 00HW019 Equipment: GRUNDFOS REDIFLO 2
 Date: 7/24/02 DEDICATED SUBM. PUMP
 Personnel: MES/TAM Contractor: SOTA

	Before	Ref. Point	After
Depth to Water (ft.)	195.15	TOC	195.72
Depth to Sediment (ft.)	-		-
Thickness of Sediment (ft.)	-		-

Depth of Well (ft.) 245
 Diameter of Casing (ft.) 0.33
 Water Column Height (ft.) 49.85

Casing Volume (gal.) = $\pi(\text{Casing Diam. [ft.]} / 2)^2 \cdot (\text{Water Column Ht. [ft.]}) \cdot 7.48 \text{ gal./ft}^3 = \underline{32.5}$
 (for 4" diam. casing - 0.653 gal./ft) Casing Volumes Purged 3
 Total Volume Purged (gal.) 98

Time	Pump Rate (gpm)	Volume Purged (gal.)	pH	Turbidity (NTU)	Temperature (°C)	Conductivity (mS/cm)	Comments
1257	1.4	0	-	-	-	-	PUMP ON @ 359 Hz
1258		1	7.77	4	22.3	0.711	
1307		14	7.42	1	22.4	0.697	
1317		28	7.46	0	22.1	0.688	GW @ 195.65
1327		42	7.28	0	22.3	0.688	
1337		56	7.28	0	22.0	0.693	GW @ 195.71
1347		70	7.13	0	21.8	0.705	
1357		84	7.15	0	22.0	0.713	GW @ 195.72
1407		98	7.19	0	22.2	0.714	

Notes: WATER IS CLEAR - NO ODOR.
SAMPLE COLLECTED @ 1408

PURGE WATER TRANSFERRED TO POLY TANK @ MW-5
VIA 2 x 55 gal. DRUMS

WELL DEVELOPMENT AND SAMPLING LOG

Project Name: JPL Pasadena Well ID: MW-7
 Project No: 00HW019 Equipment: GRUNDYFOS 3 1/2" SUBM. PUMP
 Date: 7/25/02 Contractor: SEE NOTE
 Personnel: MES/TAM

	Before	Ref. Point	After
Depth to Water (ft.)	NOT MEASURED	—	SEE NOTE
Depth to Sediment (ft.)	—	—	—
Thickness of Sediment (ft.)	—	—	—

Depth of Well (ft.) 275
 Diameter of Casing (ft.) 0.33
 Water Column Height (ft.) 50 (ASSUMED - SEE NOTE)
 Casing Volume (gal.) = $\pi(\text{Casing Diam. [ft.]}^2) \cdot (\text{Water Column Ht. [ft.]}) \cdot 7.48 \text{ gal./ft}^3 = \underline{33 \text{ gal}}$
 (for 4" diam. casing - 0.853 gal./ft) Casing Volumes Purged 3
 Total Volume Purged (gal.) 99

Time	Pump Rate (gpm)	Volume Purged (gal.)	pH	Turbidity (NTU)	Temperature (°C)	Conductivity (mS/cm)	Comments
0958	2.79	0	—	—	—	—	
1000	3.03	5.5	7.14	5	21.2	0.434	
1003	3.08	15.0	8.25	⁷² 0	20.6	0.361	
1008	3.14	20.0	8.43	0	20.7	0.361	
1013	3.40	45.0	8.43	0	20.6	0.364	
1018	3.15	60	8.46	0	20.8	0.365	
1023	3.17	75	8.50	0	20.9	0.366	
1026	3.18	86	8.50	0	20.9	0.366	
1029	3.18	99	8.53	0	21.2	0.371	

Notes: PILOT TEST SYSTEM SET UP AT WELL - WELLHEAD NOT ACCESSIBLE FOR WATER LEVEL MEASUREMENTS. SYSTEM BYPASSED AND WATER PURGED DIRECTLY INTO BAKER TANK PER FOSTER WHEELER.
WATER IS CLEAR - NO ODDA SAMPLE COLLECTED @ 1030

WELL DEVELOPMENT AND SAMPLING LOG

Project Name: JPL Pasadena Well ID: MW-8
 Project No: 00HW019 Equipment: GRUNDFOS REDIFLO
 Date: 7/25/02 VAR. FREQ. PUMP (SUBM)
 Personnel: MCS/TAM Contractor: _____

	Before	Ref. Point	After
Depth to Water (ft.)	152.64	TUC	152.82
Depth to Sediment (ft.)	—		—
Thickness of Sediment (ft.)	—		—

Depth of Well (ft.) 205
 Diameter of Casing (ft.) 0.33
 Water Column Height (ft.) 52.36
 Casing Volume (gal.) = $\pi(\text{Casing Diam. [ft.]}^2 \cdot (\text{Water Column Ht. [ft.]}) \cdot 7.48 \text{ gal./ft}^3)$ = 34 gal
 (for 4" diam. casing - 0.653 gal./ft) Casing Volumes Purged 3
 Total Volume Purged (gal.) 103 gal.

Time	Pump Rate (gpm)	Volume Purged (gal.)	pH	Turbidity (NTU)	Temperature (°C)	Conductivity (mS/cm)	Comments
1159	2.0	0	—	—	—	—	PUMP ON @ 3824
1201		4	8.20	45	22.2	0.411	GW @ 152.8'
1206		14	7.95	10	20.5	0.352	
1212		26	7.57	29	19.9	0.353	
1219		40	7.35	1	19.6	0.353	
1226		54	7.18	0	19.4	0.357	GW @ 152.82'
1233		68	7.20	0	19.3	0.356	
1240		82	7.04	25	19.5	0.356	
1251		94	6.98	3	21.9	0.358	Pump
1250		102	6.99	4	20.5	0.357	

Notes: WATER IS CLEAR - SLIGHT EFFERVESCING - NO ODOR

SAMPLE COLLECTED @ 1251

WELL DEVELOPMENT AND SAMPLING LOG

Project Name: JPL Pasadena Well ID: MW-10
 Project No: 00HW019 Equipment: GRUNDFOS RED FLO 2
 Date: 7/24/02 DEDICATED SUBH. PUMP
 Personnel: MES/TAM Contractor: SOTA

	Before	Ref. Point	After
Depth to Water (ft.)	101.44	TDC	101.54
Depth to Sediment (ft.)	—		—
Thickness of Sediment (ft.)	—		—

Depth of Well (ft.) 155
 Diameter of Casing (ft.) 0.33
 Water Column Height (ft.) 53.56
 Casing Volume (gal.) = $\pi(\text{Casing Diam.}[\text{ft.}]^2 \cdot (\text{Water Column Ht.}[\text{ft.}]) \cdot 7.48 \text{ gal./ft}^3) =$ 35
 (for 4" diam. casing - 0.653 gal./ft) Casing Volumes Purged 3
 Total Volume Purged (gal.) 105

Time	Pump Rate (gpm)	Volume Purged (gal.)	pH	Turbidity (NTU)	Temperature (°C)	Conductivity (mS/cm)	Comments
0908	2.0	—	—	—	—	—	PUMP @ 299 Hz.
0910		4	7.07	1	20.2	0.99	
0918		20	7.53	1	20.3	0.97	
0926		36	7.58	1	20.3	0.99	6w @ 101.54'
0934		52	7.45	1	20.7	1.00	
0943		70	7.67	0	20.4	1.01	
0950		84	7.51	1	20.7	1.02	
1000		104	7.57	0	20.7	1.02	

Notes: WATER IS CLEAR - NO ODOIR.
SAMPLED @ 1001

WELL DEVELOPMENT AND SAMPLING LOG

Project Name: JPL Pasadena Well ID: MW-13
 Project No: 00HW019 Equipment: GRUNDFOS REDIFLO Z
 Date: _____ DEDICATED PUMP
 Personnel: MES/TAM Contractor: SOTA

	Before	Ref. Point	After
Depth to Water (ft.)	195.13	TOC	
Depth to Sediment (ft.)	—		—
Thickness of Sediment (ft.)	—		—

Depth of Well (ft.) 235
 Diameter of Casing (ft.) 0.33
 Water Column Height (ft.) 39.87

Casing Volume (gal.) = $\pi(\text{Casing Diam.}[\text{ft.}]/2)^2 \cdot (\text{Water Column Ht.}[\text{ft.}]) \cdot 7.48 \text{ gal./ft}^3 = \underline{26 \text{ gal.}}$
(for 4" diam. casing - 0.653 gal./ft) Casing Volumes Purged 3

Total Volume Purged (gal.) 78

Time	Pump Rate (gpm)	Volume Purged (gal.)	pH	Turbidity (NTU)	Temperature (°C)	Conductivity (mS/cm)	Comments
1246	2.0	—	—	—	—	—	Pump @ 366 Hz
1250		8	8.59	-5	24.1	0.406	
1254		16	8.29	-9	23.0	0.366	
1300		28	8.04	-10	22.7	0.366	
1311		50	7.88	-6	22.9	0.366	
1318		64	7.79	-3	22.9	0.367	
1324		76	7.43	-3	22.8	0.388	

Notes: WATER IS CLEAR - NO ODO -
SAMPLED @ 1325

WELL DEVELOPMENT AND SAMPLING LOG

Project Name: JPL Pasadena Well ID: MW-16
 Project No: 00HW019 Equipment: GRUNDOS RFD-102
 Date: 7/23/02 DEDICATED PUMP
 Personnel: MES/TAM Contractor: SOTA

	Before	Ref. Point	After
Depth to Water (ft.)	248.40	TDC	248.48
Depth to Sediment (ft.)	—		—
Thickness of Sediment (ft.)	—		—

Depth of Well (ft.) 285'

Diameter of Casing (ft.) 0.33

Water Column Height (ft.) 36.6

Casing Volume (gal.) = $\pi(\text{Casing Diam. [ft.]}^2 \cdot (\text{Water Column Ht. [ft.]}) \cdot 7.48 \text{ gal./ft}^3)$ = 24 gal

(for 4" diam. casing - 0.653 gal./ft)

Casing Volumes Purged 3

Total Volume Purged (gal.) 72

Time	Pump Rate (gpm)	Volume Purged (gal.)	pH	Turbidity (NTU)	Temperature (°C)	Conductivity (mS/cm)	Comments
1013	1.0	0	8.1				MOTOR @ 371 Hz
1016		3	8.15	-10	22.2	0.336	
1025		12	8.08	-10	23.2	0.35	
1038		25	7.90	-10	22.8	0.342	
1048		35	8.13	-10	23.4	0.342	GW @ 248.48'
1058		45	8.11	-10	23.5	0.342	
1108		55	8.09	-10	23.6	0.342	
1120		67	8.13	-10	23.2	0.343	
1124		71	8.12	-10	23.2	0.343	

Notes: WATER IS CLEAR / NO ODOR
SAMPLED @ 1125