

**APPENDIX D**  
**MONITORING WELL SAMPLING LOGS**

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**APPENDIX D**  
**MONITORING WELL SAMPLING LOGS**

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# WELL PURGE RECORD

PROJECT NAME: Load Line 4 Phase II RI

DELIVERY ORDER NO: ECAS 186

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Date: 09/05/01

Time: 1555

Well Number and Location: LL4 - MW193

Purge Crew: Beau Williams, Susan McCausland

Date and Time:

Begin: 09/05/01 1435

Completed: 09/06/01 1630

Purge Method(S):

QED Micropurge, Sample Pro Bladder Pump inc.  
BAILER

Total Quantity of Water Removed: 7.5 gals

FIELD MEASUREMENT	SERIAL NUMBER	DATE OF LAST CALIBRATION
Temperature	QED MP 20 Flow METER QD 00193	09/05/01
Specific Conductivity	SAME AS ABOVE	SAME AS ABOVE
Water Level	HERON DIPPER T N-5769	09/05/01
pH	QED MP 20 Flow METER QD 00193	09/05/01

Recorded By:

S McCausland 09/05/01  
(Signature and Date)

QA Check By:

M Clough 9/26/01  
(Signature and Date)

# WELL PURGE RECORD

PROJECT NAME: Load Line 4 Phase II RI

DELIVERY ORDER NO: EGAS 186

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WELL NUMBER AND LOCATION: LL4 MW-193

DATE	TIME	GALLONS REMOVED	TEMP(C)	SPECIFIC CONDUCTIVITY (µMHOS/CM)	pH (Standard Units)	TURBIDITY	TOTAL GALLONS REMOVED	WELL VOLUMES REMOVED	COMMENTS
09/05/01	1635	0	19.20	.809	7.06	2.32	0.0	—	INITIAL READINGS
↓	1705	<1	20.18	.811	7.65	1.46	<1	—	
09/06/01	0810	0	13.4	.691	6.65	11.84 NTU	0.0	—	INITIAL READING w/ HORIBA U-10
↓	0820	4	11.7	.710	6.88	999 Turb.	4.0	—	#14252 CALIBRATED 09/06/01
↓	0830	16.25M	11.5	.705	6.93	999 Turb	6.0	—	Extremely Turbid
↓	0840	1.5	11.6	.702	6.96	999 Turb	7.5	—	
09/06/01	1605	—	15.2	.675	7.42	204 Turb	—	—	Return to sample water at 11.4' BSEC
<del>09/06/01 01 SA</del>									

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RECORDED BY: J. McCusker 09/06/01  
(Signature and Date)

QA CHECK BY: J. Dougherty 9/6/01  
(Signature and Date)

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# WELL PURGE RECORD

PROJECT NAME: Load Line 4 Phase II/R

DELIVERY ORDER NO: EGAS 186

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Date: 9/5/01

Time: 1325

Well Number and Location: LL4MW194-1

Purge Crew: M. Clough  
J. DeVaughn

Date and Time:

Begin: 9-5-01 / 1342 Completed: 9-5-01 / 1432

Purge Method(S): Bladder Pump - Micro-purge

Total Quantity of Water Removed: ~6 gals

FIELD MEASUREMENT	SERIAL NUMBER	DATE OF LAST CALIBRATION
Temperature	206276R	9/5/01
Specific Conductivity	↓	↓
Water Level	05767	NA
pH	206276R	9/5/01
D.O	↓	↓

Recorded By:

M. Clough 9/5/01  
(Signature and Date)

QA Check By:

Ueli Brumback 9-11-01  
(Signature and Date)

**WELL PURGE RECORD**

**PROJECT NAME:** Load Line 4 Phase II RI

**DELIVERY ORDER NO:** ECAS 186

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WELL NUMBER AND LOCATION: LL4mw-294 <sup>CR</sup> <sub>12-02</sub>

DATE	TIME	GALLONS REMOVED	TEMP(C)	SPECIFIC CONDUCTIVITY (µMHOS/CM)	pH (Standard Units)	TURBIDITY	TOTAL GALLONS REMOVED	WELL VOLUMES REMOVED D.O.	COMMENTS
	1351	.2	16.73	0.801	7.24	Clear	.2	0.64	
	1401	.5	16.20	0.799	7.23	clear	0.29	0.29	
	1411	.8	16.04	0.798	7.23	clear	1.5	0.21	
	1421	1.1	16.21	0.796	7.23	clear	2.6	0.22	- Battery on comp dead
	1431	1.4	16.13	0.797	7.23	clear	4.0	0.21	
	1432	BEGIN SAMPLING							
	1643	End Sampling							
	1644		17.58	0.798	7.22	clear		0.28	
<del>9-11-01 vjb</del>									

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RECORDED BY: Paul C Clough 9/5/01  
(Signature and Date)

QA CHECK BY: Uzlin Brumbach 9-11-01  
(Signature and Date)



**WELL PURGE RECORD**

**PROJECT NAME:** Load Line 4 Phase II RI

**DELIVERY ORDER NO:** EGAS 186

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Date: 9/5/01

Time:

Well Number and Location:

LL4 new 195

Purge Crew:

Martha Clough  
Jeff DeVaughn

Date and Time:

Begin:

9/5/01, 0930

Completed:

9/5/01, 1015

Purge Method(S):

Bladder Pump - QED System  
w/ Sample Pro Pump

Total Quantity of Water Removed: ~6 gals

*yjb 4-11-01*

FIELD MEASUREMENT	SERIAL NUMBER	DATE OF LAST CALIBRATION
Temperature	206276R	9/5/01
Specific Conductivity	↓	↓
Water Level	05767	NA
pH	206276R	9/5/01 ↓
D.O.	↓	↓

Recorded By:

Martha Clough 9/5/01  
(Signature and Date)

QA Check By:

Victor Bombach 9-11-01  
(Signature and Date)

# WELL PURGE RECORD

PROJECT NAME: Load Line 4 Phase I RI

DELIVERY ORDER NO: EGAS 186

WELL NUMBER AND LOCATION: LL4mw195

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DATE	TIME	GALLONS REMOVED	TEMP(C)	SPECIFIC CONDUCTIVITY (μMHOS/CM)	pH (Standard Units)	TURBIDITY	TOTAL GALLONS REMOVED	WELL VOLUMES REMOVED <i>NA</i> <i>Dissolved Oxygen</i>	COMMENTS
9/15/01	0935	0.5	14.4	1.57	6.64	cloudy	0.5	4.17	DO = 4.17 $\frac{1}{2}$ DO level = 13.93
	0945	0.7	14.26	1.54	6.67	cloudy	0.7	1.01	Pump rate = 175 ml/min
	0955	0.8	14.20	1.54	6.68	cloudy	2.0	0.20	
	1005	1	14.19	1.56	6.68	cloudy	3.0	0.22	Refill = 35 Discharge = 5 Pressure = 15 psi
	1015		14.17	1.56	6.68	cloudy		0.26	
	1017	Begin Sampling							
	1137	End Sampling							
	1139		14.53	1.55	6.71	clear		0.73	
<i>MCC</i>									

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RECORDED BY:

*J. Clough* 9/15/01  
(Signature and Date)

QA CHECK BY:

*Vicki Brumbaugh* 9-11-01  
(Signature and Date)

**WELL PURGE RECORD**

**PROJECT NAME:** Load Line 4 Phase II RI      **DELIVERY ORDER NO:** EGAS 186

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Date: 09/04/01

Time:

Well Number and Location: LL4-196 LOAD LINE 4

Purge Crew: SUSAN McCauslin (SPELT PEO), BEAU WILLIAMS, MARTHA CLOUGH, JEFF CAPP (EOTT)

Date and Time: Begin: 09/04/01 1553 Completed: 09/04/01 1827

Purge Method(S): MICROPURGE BLADDER PUMP (SAMPLE PEO)

Total Quantity of Water Removed: 23 L gals 51

FIELD MEASUREMENT	SERIAL NUMBER	DATE OF LAST CALIBRATION
Temperature	QED MP24 FLOW CELL METER QD <del>193</del>	09/04/01
Specific Conductivity	SAME AS ABOVE	SAME AS ABOVE
Water Level	HELOW DIPPER-T N-5769	09/04/01
pH	QED MP24 FLOW CELL METER QD <del>193</del>	09/04/01

Recorded By: B. Williams 09/04/01  
(Signature and Date)

QA Check By: S McCauslin 09/20/01  
(Signature and Date)

# WELL PURGE RECORD

PROJECT NAME: Load Line 4 Phase II RI

DELIVERY ORDER NO: ECAS 186

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WELL NUMBER AND LOCATION: LL4-196 LOAD LINE 4

DATE	TIME	GALLONS REMOVED LITERS	TEMP(C)	SPECIFIC CONDUCTIVITY (µMHOS/CM)	pH (Standard Units)	TURBIDITY D.O.	TOTAL GALLONS LITERS REMOVED	WELL VOLUMES REMOVED	COMMENTS
09/04/01	1553	0.0 L	14.87	0.575	7.53	3.35	0.0 L	—	INITIAL 14.80 FT
09/04/01	1603	3.0 L	13.51	0.585	7.22	2.84	3.0 L	—	14.86 FT, RATE = 300 ml/min
09/04/01	1613	3.0 L	13.33	0.588	7.14	2.89	6.0 L	—	14.93 FT
09/04/01	1623	3.0 L	14.91	0.573	7.12	2.87	9.0 L	—	
09/04/01	1633	3.0 L	14.15	0.570	7.10	2.80	12.0 L	—	SAMPLE BEGIN
09/04/01	1827	11.0 L	13.84	0.556	7.41	3.99	23.0 L	—	FINAL, 14.93 FT
09/04/01 5'									

RECORDED BY: B. Williams 09/04/01  
(Signature and Date)

QA CHECK BY: Steve Guss 09/04/01  
(Signature and Date)

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# WELL PURGE RECORD

PROJECT NAME: Load Line 4 Phase II RT

DELIVERY ORDER NO: ECAS 186

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Date: 09/05/01

Time: \_\_\_\_\_

Well Number and Location: LL4-199 LOAD LINE 4

Purge Crew: \_\_\_\_\_

Date and Time: Begin: 09/05/01 / 0838 Completed: 09/05/01 / 1407

Purge Method(S): MICROPURGE BLADDER PUMP (SAMPLE PRE)

Total Quantity of Water Removed: 14.0 gals L 54

FIELD MEASUREMENT	SERIAL NUMBER	DATE OF LAST CALIBRATION
Temperature	QED MP 20 FLOW METER QD 00193	09/05/01
Specific Conductivity	SAME AS ABOVE	SAME AS ABOVE
Water Level	HERON DIPPER - T N - 5709	09/05/01
pH	QED MP 20 FLOW METER QD 00193	09/05/01

Recorded By: J. M. [Signature] 09/05/01  
(Signature and Date)

QA Check By: \_\_\_\_\_  
(Signature and Date)

# WELL PURGE RECORD

PROJECT NAME: Load Line 4 Phase II R

DELIVERY ORDER NO: ECAS 186

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WELL NUMBER AND LOCATION: LL4 - MW 197

*09/05/01*

DATE	TIME	GALLONS REMOVED LITERS	TEMP(C)	SPECIFIC CONDUCTIVITY (µMHOS/CM)	pH (Standard Units)	TURBIDITY D.O.	TOTAL GALLONS REMOVED LITERS	WELL VOLUMES REMOVED	COMMENTS
09/05/01	0838	0.0	13.44	0.669	7.01	4.18	0.0	-	INITIAL READING 15.8 <sup>FT</sup>
09/05/01	0848	.5	13.07	0.673	7.26	3.11	.5	-	16.45 <sup>FT</sup> , Rate = 50 ml/min
09/05/01	0858	.5	13.42	0.676	7.30	3.20	1	-	
09/05/01	0908	.5	13.34	0.676	7.31	2.71	1.5	-	
09/05/01	0918	.5	13.49	0.679	7.32	2.67	2	-	
09/05/01	0928	.5	13.84	0.684	7.32	2.51	2.5	-	
09/05/01	0938	.5	13.85	0.691	7.34	2.59	3	-	BEGIN SAMPLING
09/05/01	1407	11.0	16.09	0.688	9.78	2.43	14.0	-	FINAL READING 16.45
<del>09-26-01 SA</del>									

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RECORDED BY: B. Williams 09/05/01  
(Signature and Date)

QA CHECK BY: J. McCord 09-26-01  
(Signature and Date)

**WELL PURGE RECORD**

PROJECT NAME: Load Line 4 Phase II RI

DELIVERY ORDER NO: ECAS 186

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Date: 9/6/01

Time: 0825

Well Number and Location: LL4mw198

Purge Crew: M. Clough  
J. Devaughn

Date and Time: Begin: 9/6/01 0825 Completed: 9/6/01 1050

Purge Method(S): Bailer

Total Quantity of Water Removed: 10 gals

FIELD MEASUREMENT	SERIAL NUMBER	DATE OF LAST CALIBRATION
Temperature	206276R	9/6/01
Specific Conductivity	↓	↓
Water Level	05767	NA
pH	206276R	9/6/01
Dissolved Oxygen	↓	↓

Recorded By: M Clough 9/6/01  
(Signature and Date)

QA Check By: Walter Brumback 9-11-01  
(Signature and Date)

# WELL PURGE RECORD

PROJECT NAME: Load Line 4 Phase II RI

DELIVERY ORDER NO: EGAS 186

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WELL NUMBER AND LOCATION: LL4-MW19B

DATE	TIME	GALLONS REMOVED	TEMP(C)	SPECIFIC CONDUCTIVITY (µMHOS/CM)	pH (Standard Units)	TURBIDITY	TOTAL GALLONS REMOVED	WELL VOLUMES REMOVED	COMMENTS
9-6-01	0848		13.74	0.352	6.37	turbid	1.62		Initial
	0908		15.21	0.349	6.42	turbid	0.5		Water level stable. M.C.P.
	1015		12.50	0.387	6.69	turbid	4.66		Failed dry, 10 gal, vx. silty
	<del>1110</del>								
9-7-01	0850		12.75	0.388	6.14	turbid	5.10		Removed app. 11 liters.

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RECORDED BY: M. Coughlin 9/6/01  
(Signature and Date)

QA CHECK BY: Ursula Brumback 9-11-01  
(Signature and Date)



**WELL PURGE RECORD**

**PROJECT NAME:** Load Line 4 Phase I/RI      **DELIVERY ORDER NO:** ECAS 186

Page 1 of 1  
 Time: 1100

Date: 9/6/01

Well Number and Location: LL4mw199

Purge Crew: M. Clough  
J. DeJongh

Date and Time: Begin: 9/6/01, 1108 Completed: 9/6/01, 1214

Purge Method(S): DED Micropurging System w/  
Sample Pro Bladder Pump

Total Quantity of Water Removed: ~ 6 gals  
 vjn

FIELD MEASUREMENT	SERIAL NUMBER	DATE OF LAST CALIBRATION
Temperature	206276R	9/6/01
Specific Conductivity	↓	↓
Water Level	05747	NA
pH	206276R	9/6/01
Dissolved Oxygen	↓	↓

Recorded By: M. Clough 9/6/01  
 (Signature and Date)

QA Check By: Walter Brumback 9-11-01  
 (Signature and Date)

# WELL PURGE RECORD

PROJECT NAME: Load Line 4 Phase II RI

DELIVERY ORDER NO: ECAS 186

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WELL NUMBER AND LOCATION: LL4mw 199

DATE	TIME	GALLONS REMOVED	TEMP(C)	SPECIFIC CONDUCTIVITY (µMHOS/CM)	pH (Standard Units)	TURBIDITY	TOTAL GALLONS REMOVED	WELL VOLUMES REMOVED <del>D.B.</del>	COMMENTS
	1124	.3	15.81	0.615	7.35	clear	0.3	1.47	
	1134	.4	16.51	0.617	7.35	clear	0.7	1.90	
	1144	.5	17.42	0.618	7.34	clear	1.2	2.02	
	1154	.6	18.02	0.616	7.35	clear	1.8	3.07	
	1204	.7	18.01	0.611	7.36	clear	2.5	3.02	
	1214	1	17.99	0.609	7.38	clear	3.5	3.00	
	1215	Begin Sampling							
	1550	Sampling Complete							
	1551		19.50	0.599	7.45	clear		14.71	
<i>M. Clough</i>									

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RECORDED BY: *M. Clough* 9/6/01  
(Signature and Date)

QA CHECK BY: *Viola Brumback* 9-11-01  
(Signature and Date)

**WELL PURGE RECORD**

**PROJECT NAME:** Load Line 4 Phase II RI      **DELIVERY ORDER NO. ECAS 186**

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Date: 09/06/01

Time: 0850

Well Number and Location: LL4 MW-200

Purge Crew: Beau Williams SAIC  
Susan McCawlin Spec Pro

Date and Time: Begin: 09/06/01 10915 Completed: 09/06/01 1000

Purge Method(S): QED Micropurge, Sample Pro Bladder Pump

Total Quantity of Water Removed: 38.5 L gals 5.74 SM

FIELD MEASUREMENT	SERIAL NUMBER	DATE OF LAST CALIBRATION
Temperature	QED MP 20 FLOW CELL METER QD 00193	09/06/01
Specific Conductivity	SAME AS ABOVE	SAME AS ABOVE
Water Level	HERON DIPART N-5769	09/06/01
pH	QED MP 20 FLOW CELL METER QD 00193	09/06/01

Recorded By: S McCawlin 09/06/01  
(Signature and Date)

QA Check By: M Clough 9/24/01  
(Signature and Date)

# WELL PURGE RECORD

PROJECT NAME: Load Line 4 Phase II-R

DELIVERY ORDER NO: ECAS 186

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WELL NUMBER AND LOCATION: LL4 MW-200

DATE	TIME	GALLONS REMOVED LITERS	TEMP(C)	SPECIFIC CONDUCTIVITY (µMHOS/CM)	pH (Standard Units)	TURBIDITY D.O.	TOTAL GALLONS REMOVED LITERS	WELL VOLUMES REMOVED	COMMENTS
09/06/01	0920	0.0L	13.56	0.963	7.06	2.83	0.0L	0.0	INITIAL READING Ramping level 20.20' turbid
09/06/01	0930	1.5L	12.06	0.977	7.12	0.57	1.5L	—	20.22'; 150 ml/min turbid
09/06/01	0940	1.5L	12.01	0.973	7.12	0.48	3.0L	—	turbid
09/06/01	0950	1.5L	12.04	0.969	7.14	0.38	4.5L	—	turbid
09/06/01	1000	1.5L	12.28	0.961	7.16	0.34	6.0L	—	BEGIN SAMPLE turbid
09/06/01	1459	32.5L	15.31	0.960	11.52	0.71	38.5L	—	FINAL READING, CLEAR
09/06/01	1605 SM								
<del>SM</del>									
<del>09-26-01</del>									

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RECORDED BY: B. Williams 09/06/01  
(Signature and Date)

QA CHECK BY: SM 09-26-01  
(Signature and Date)