

AP - 66

ANNUAL MONITORING REPORT

YEAR(S):
2004

RICE Operating Company

122 West Taylor • Hobbs, New Mexico 88240
Phone: (505)393-9174 • Fax: (505) 397-1471

CERTIFIED MAIL

RETURN RECEIPT NO. 7002 2410 0000 4940 1855

January 26, 2005

Mr. Wayne Price
New Mexico Energy, Minerals, & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 S. St. Francis Drive
Santa Fe, New Mexico 87505

**RE: 2004 MONITOR WELL REPORT/SAMPLING SUMMARY
JUNCTION N-5, EME SWD SYSTEM
UNIT 'N', SEC. 5, T20S, R37E
NMOCD CASE #1R0427-90**

Mr. Price:

Rice Operating Company (ROC) takes this opportunity to submit the 2004 Monitor Well Report for the EME N-5 junction box site located in the Eunice Monument Eumont (EME) Salt Water Disposal (SWD) System. One monitoring well was installed in 2002 during the delineation of a junction box. This well is sampled quarterly pursuant to NMOCD guidelines. In 2004, ROC and Arcadis G&M, Inc. of Midland, Texas sampled the well. In 2005, Trident Environmental (Trident) of Midland will sample the well and Environmental Lab of Texas of Odessa will continue to conduct analytical tests of the water samples.

Trident has been contracted by ROC to address groundwater concerns at this. NMOCD may expect the submission of an Investigation & Characterization Plan (ICP) this year.

ROC is the service provider (operator) for the EME Salt Water Disposal System and has no ownership of any portion of pipeline, well, or facility. The EME SWD System is owned by a consortium of oil producers, System Partners, who provide all operating capital on a percentage ownership/usage basis.

Thank you for your consideration concerning this annual summary of groundwater monitoring information. If you have any questions, do not hesitate to contact me.

RICE OPERATING COMAPANY

Kristin Farris Pope

Kristin Farris Pope
Project Scientist

enclosures: Summary table & graph
 Analytical results
 Map

cc: LBG, CDH, Trident, file, Rob Roy Industries,

Chris Williams
NMOCD, District I Office
1625 N. French Drive
Hobbs, NM 88240

EME jct. N-5

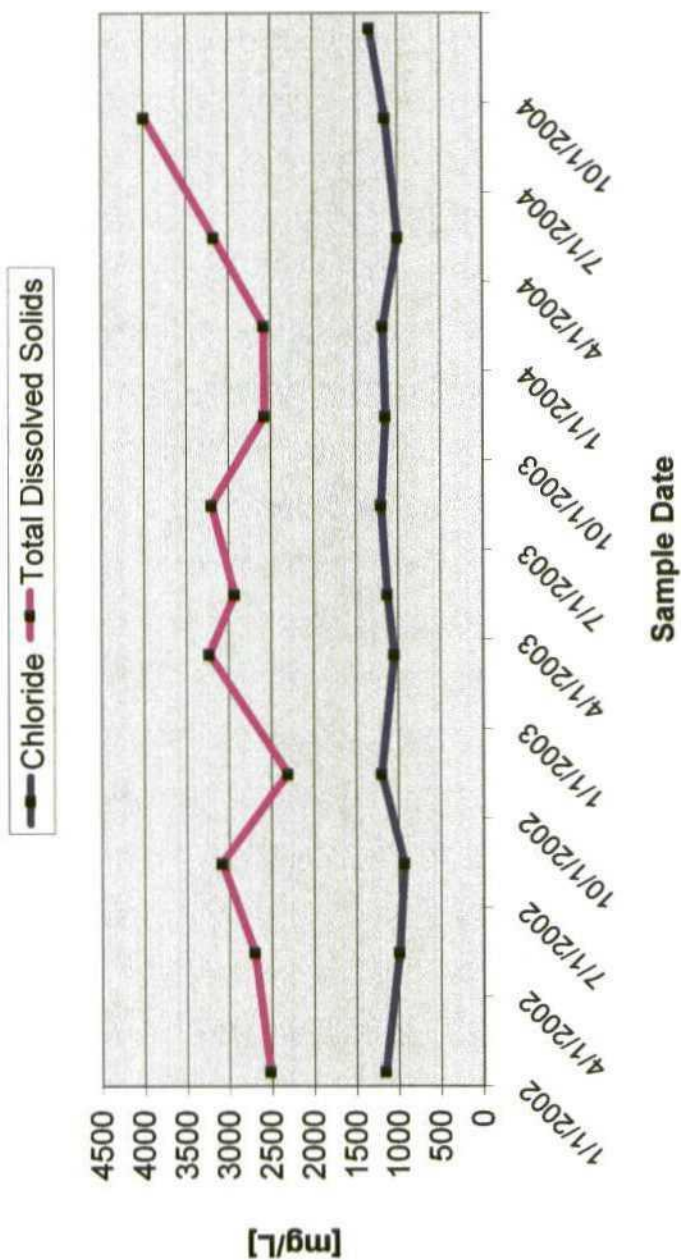
unit 'N', Sec. 5, T20S, R37E

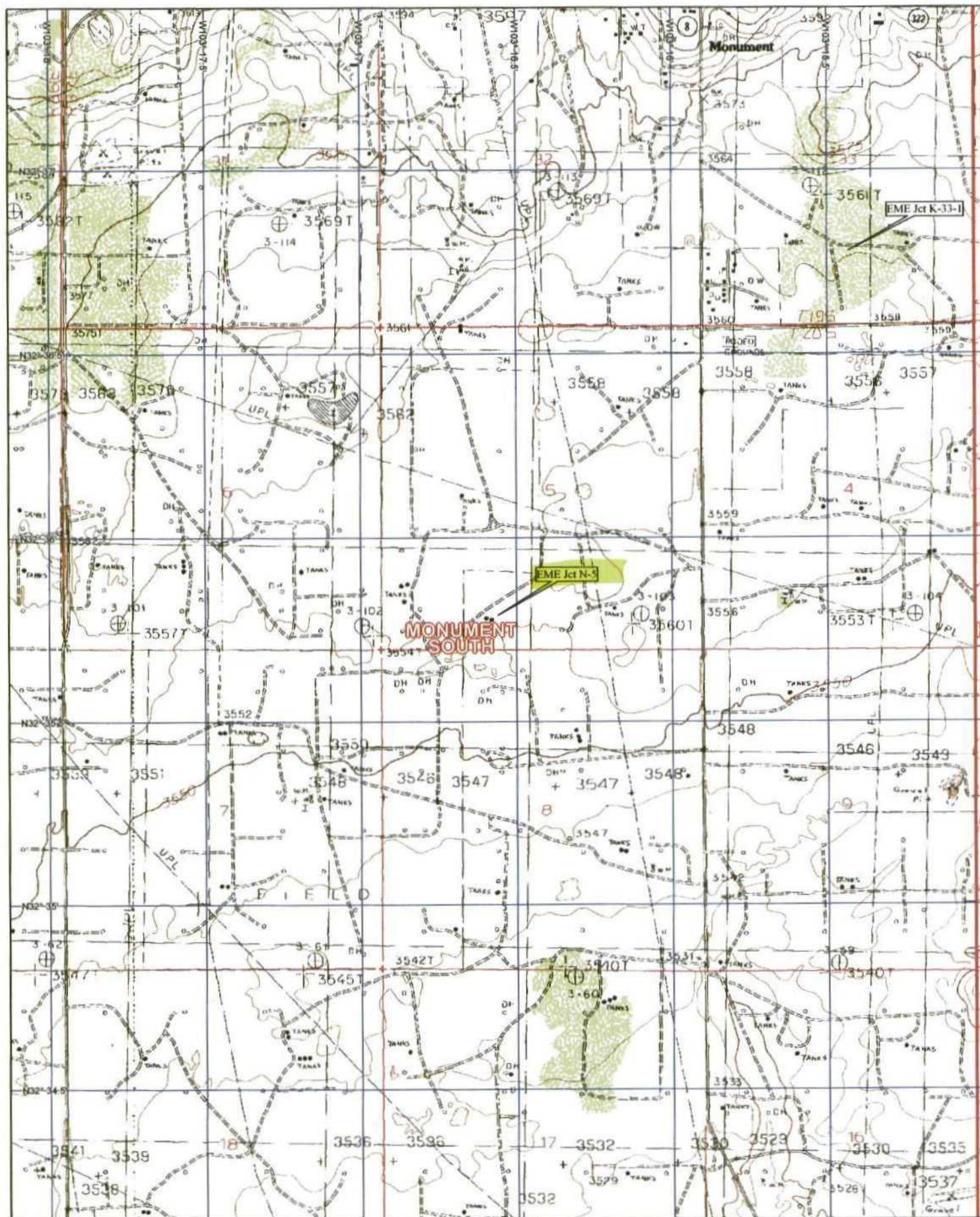
RICE Operating Company
Monitor Well Data Sheet

| All concentrations are in mg/L | | | | | | | | | | | | |
|--------------------------------|------------------|-------------|-------------|---------------|-------------|-----------------|------|----------|---------|---------------|---------------|---|
| (ft) | | | (gal) | | | | | | | | | |
| MW # | DEPTH TO WATER * | TOTAL DEPTH | WELL VOLUME | VOLUME PURGED | SAMPLE DATE | Cl ⁻ | TDS | BENZENE | TOLUENE | ETHYL BENZENE | TOTAL XYLENES | COMMENTS |
| 1 | 35.50 | 41.30 | 0.900 | 2.80 | 1/10/02 | 1160 | 2652 | <0.002 | <0.002 | <0.006 | <0.006 | |
| 1 | 37.47 | 40.18 | 0.434 | 2.25 | 5/13/02 | 993 | 2520 | <1.00 | 1.98 | 2.80 | 9.15 | sandy |
| 1 | 37.75 | 40.19 | 0.390 | 1.50 | 8/12/02 | 939 | 2700 | <0.001 | <0.001 | <0.001 | 0.001 | |
| 1 | 37.90 | 40.20 | 0.368 | 1.29 | 11/4/02 | 1200 | 3083 | <0.002 | <0.002 | <0.002 | <0.006 | sandy, slow recharge; hydrocarbon odor |
| 1 | 37.78 | 40.17 | 0.380 | 1.10 | 3/14/03 | 1050 | 2310 | <0.001 | 0.002 | 0.004 | 0.011 | |
| 1 | 38.00 | 42.21 | 0.600 | 2.02 | 5/29/03 | 1130 | 3230 | <0.001 | 0.001 | 0.004 | 0.01 | |
| 1 | 38.42 | 40.21 | 0.200 | 0.60 | 8/22/03 | 1200 | 2930 | XXX | XXX | XXX | XXX | oil |
| 1 | 38.63 | 41.55 | 0.400 | 1.40 | 11/20/03 | 1150 | 3200 | <0.001 | 0.002 | 0.003 | 0.012 | oil skim |
| 1 | 38.50 | 40.25 | 0.280 | 0.84 | 2/20/04 | 1180 | 2575 | <0.002 | <0.002 | <0.002 | <0.006 | |
| 1 | 37.80 | 40.25 | 0.390 | 1.00 | 5/26/04 | 1000 | 2583 | <0.002 | 0.005 | 0.005 | 0.010 | |
| 1 | 37.94 | 40.35 | XXX | 1.00 | 9/2/04 | 1150 | 3170 | 0.000463 | 0.00087 | 0.00159 | 0.002582 | hydrocarbon droplets; cloudy |
| 1 | 35.12 | 37.00 | XXX | 0.00 | 12/21/04 | 1330 | 3990 | <0.001 | <0.001 | <0.001 | <0.001 | |

* Depth to water measured from top of casing
Casing is 2.125 ft

EME Jct. N-5 Monitor Well



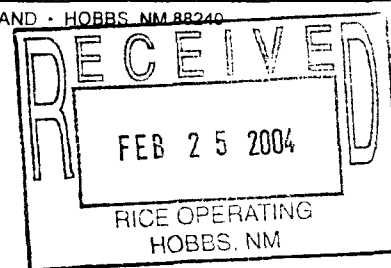




PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
RICE OPERATING CO.
ATTN: KRISTIN FARRIS
122 W. TAYLOR
HOBBS, NM 88240
FAX TO: (505) 397-1471



Receiving Date: 02/20/04
Reporting Date: 02/24/04
Project Number: NOT GIVEN
Project Name: NOT GIVEN
Project Location: EME-5

Sampling Date: 02/20/04
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: GP
Analyzed By: AH

| LAB NUMBER | SAMPLE ID | Na (mg/L) | Ca (mg/L) | Mg (mg/L) | K (mg/L) | Conductivity (u S/cm) | T-Alkalinity (mgCaCO ₃ /L) |
|-----------------------------|------------|--------------|--------------|--------------|-------------|--------------------------|--|
| ANALYSIS DATE: | | 02/23/04 | 02/23/04 | 02/23/04 | 02/23/04 | 02/23/04 | 02/23/04 |
| H8483-1 | EME N-5 MW | 444 | 335 | 72 | 7.69 | 4425 | 387 |
| | | | | | | | |
| | | | | | | | |
| Quality Control | | NR | 59 | 42 | 5.17 | 1322 | NR |
| True Value QC | | NR | 50 | 50 | 5.00 | 1413 | NR |
| % Recovery | | NR | 118 | 85 | 103 | 93.6 | NR |
| Relative Percent Difference | | NR | 1.7 | 2.3 | 1.0 | 0.7 | NR |

| | | | | | |
|----------|-------------|-----------|------|-------|-------|
| METHODS: | SM3500-Ca-D | 3500-Mg E | 8049 | 120.1 | 310.1 |
|----------|-------------|-----------|------|-------|-------|

| | Cl ⁻ (mg/L) | SO ₄ (mg/L) | CO ₃ (mg/L) | HCO ₃ (mg/L) | pH (s.u.) | TDS (mg/L) |
|-----------------------------|---------------------------|---------------------------|---------------------------|----------------------------|--------------|---------------|
| ANALYSIS DATE: | 02/23/04 | 02/23/04 | 02/23/04 | 02/23/04 | 02/23/04 | 02/24/04 |
| H8483-1 EME N-5 MW | 1180 | 57 | 0 | 472 | 7.00 | 2575 |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| Quality Control | 1010 | 53.65 | NR | 1007 | 7.04 | NR |
| True Value QC | 1000 | 50.00 | NR | 1000 | 7.00 | NR |
| % Recovery | 101 | 107 | NR | 101 | 101 | NR |
| Relative Percent Difference | 2.0 | 1.5 | NR | 1.1 | 0 | 1.4 |

| | | | | | | |
|----------|-------------|-------|-------|-------|-------|-------|
| METHODS: | SM4500-Cl-B | 375.4 | 310.1 | 310.1 | 150.1 | 160.1 |
|----------|-------------|-------|-------|-------|-------|-------|

Chemist

Date 2/24/04

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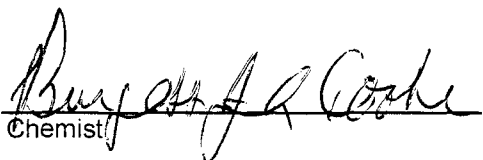
ANALYTICAL RESULTS FOR
RICE OPERATING CO.
ATTN: KRISTIN FARRIS
122 W. TAYLOR
HOBBS, NM 88240
FAX TO: (505) 397-1471

Receiving Date: 02/20/04
Reporting Date: 02/23/04
Project Number: NOT GIVEN
Project Name: NOT GIVEN
Project Location: EME-5

Sampling Date: 02/20/04
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: GP
Analyzed By: BC

| LAB NUMBER | SAMPLE ID | BENZENE (mg/L) | TOLUENE (mg/L) | ETHYL BENZENE (mg/L) | TOTAL XYLENES (mg/L) |
|-----------------------------|-------------------------|-------------------|-------------------|----------------------------|----------------------------|
| ANALYSIS DATE | | 02/20/04 | 02/20/04 | 02/20/04 | 02/20/04 |
| H8483-1 | EME N-5 MONITOR WELL | <0.002 | <0.002 | <0.002 | <0.006 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| Quality Control | | 0.090 | 0.096 | 0.097 | 0.291 |
| True Value QC | | 0.100 | 0.100 | 0.100 | 0.300 |
| % Recovery | | 90.2 | 96.1 | 96.6 | 97.0 |
| Relative Percent Difference | | 3.2 | 3.6 | 2.8 | 2.6 |

METHOD: EPA SW-846 8260


Chemist

2/23/04
Date

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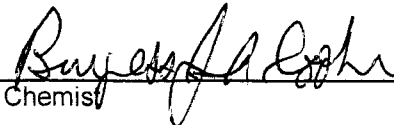
ANALYTICAL RESULTS FOR
RICE OPERATING
ATTN: KRISTIN FARRIS
122 W. TAYLOR
HOBBS, NM 88240
FAX TO: (505) 397-1471

Receiving Date: 05/26/04
Reporting Date: 05/28/04
Project Number: NOT GIVEN
Project Name: EME-N-5 MW
Project Location: NOT GIVEN

Sampling Date: 05/26/04
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: GP
Analyzed By: BC

| LAB NUMBER | SAMPLE ID | BENZENE (mg/L) | TOLUENE (mg/L) | ETHYL BENZENE (mg/L) | TOTAL XYLENES (mg/L) |
|-----------------------------|-----------|-------------------|-------------------|----------------------------|----------------------------|
| ANALYSIS DATE | | 05/27/04 | 05/27/04 | 05/27/04 | 05/27/04 |
| H8743-1 | N-5 M.W. | <0.002 | 0.005 | 0.005 | 0.010 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| Quality Control | | 0.098 | 0.099 | 0.088 | 0.256 |
| True Value QC | | 0.100 | 0.100 | 0.100 | 0.300 |
| % Recovery | | 97.9 | 98.9 | 87.7 | 85.4 |
| Relative Percent Difference | | 7.4 | 5.0 | 1.8 | 3.6 |

METHOD: EPA SW-846 8260


Chemist

5/28/04
Date

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RICE OPERATING
ATTN: KRISTIN FARRIS
122 W. TAYLOR
HOBBS, NM 88240
FAX TO: (505) 397-1471

Receiving Date: 05/26/04
Reporting Date: 05/28/04
Project Number: NOT GIVEN
Project Name: EME N-5 MW
Project Location: NOT GIVEN

Sampling Date: 05/26/04
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: GP
Analyzed By: AH

| LAB NUMBER | SAMPLE ID | Na (mg/L) | Ca (mg/L) | Mg (mg/L) | K (mg/L) | Conductivity (uS/cm) | T-Alkalinity (mgCaCO ₃ /L) |
|------------|-----------|--------------|--------------|--------------|-------------|-------------------------|--|
|------------|-----------|--------------|--------------|--------------|-------------|-------------------------|--|

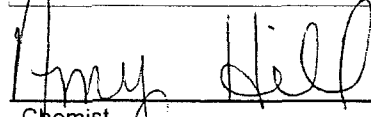
| | | | | | | | |
|-----------------------------|----------|----------|----------|----------|----------|----------|----------|
| ANALYSIS DATE: | 05/27/04 | 05/27/04 | 05/27/04 | 05/27/04 | 05/27/04 | 05/27/04 | 05/27/04 |
| H8743-1 N-5 M.W. | 495 | 226 | 77 | 10.8 | 4027 | | 480 |
| | | | | | | | |
| | | | | | | | |
| Quality Control | NR | 50 | 55 | 4.58 | 1322 | | NR |
| True Value QC | NR | 50 | 50 | 5.00 | 1413 | | NR |
| % Recovery | NR | 100 | 110 | 91.6 | 93.6 | | NR |
| Relative Percent Difference | NR | 0 | 0 | 7.2 | 0.7 | | NR |

| | | | | | |
|----------|-------------|-----------|------|-------|-------|
| METHODS: | SM3500-Ca-D | 3500-Mg E | 8049 | 120.1 | 310.1 |
|----------|-------------|-----------|------|-------|-------|

| | Cl ⁻ (mg/L) | SO ₄ (mg/L) | CO ₃ (mg/L) | HCO ₃ (mg/L) | pH (s.u.) | TDS (mg/L) |
|--|---------------------------|---------------------------|---------------------------|----------------------------|--------------|---------------|
|--|---------------------------|---------------------------|---------------------------|----------------------------|--------------|---------------|

| | | | | | | |
|-----------------------------|----------|----------|----------|----------|----------|----------|
| ANALYSIS DATE: | 05/27/04 | 05/27/04 | 05/27/04 | 05/27/04 | 05/27/04 | 05/28/04 |
| H8743-1 N-5 M.W. | 1000 | 79 | 0 | 586 | 6.88 | 2583 |
| | | | | | | |
| | | | | | | |
| Quality Control | 1010 | 48.21 | NR | 1007 | 6.95 | NR |
| True Value QC | 1000 | 50.00 | NR | 1000 | 7.00 | NR |
| % Recovery | 101 | 96.4 | NR | 101 | 99.3 | NR |
| Relative Percent Difference | 2.0 | 6.2 | NR | 1.1 | 1.6 | 1.4 |

| | | | | | | |
|----------|-------------|-------|-------|-------|-------|-------|
| METHODS: | SM4500-Cl-B | 375.4 | 310.1 | 310.1 | 150.1 | 160.1 |
|----------|-------------|-------|-------|-------|-------|-------|



Chemist

5/28/04

Date

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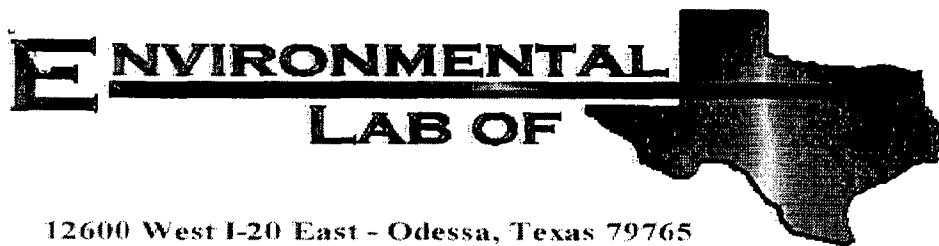
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Page of

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]



12600 West I-20 East - Odessa, Texas 79765

Analytical Report

Prepared for:

Sharon Hall

ARCADIS

1004 N. Big Spring Street

Midland, TX 79701

Project: Jct N-5/ 510

Project Number: Jct. N-5

Location: Rice Operating/EME

Lab Order Number: 4I03009

Report Date: 09/19/04

ARCADIS
1004 N. Big Spring Street
Midland TX, 79701

Project: Jct N-5/ 510
Project Number: Jct. N-5
Project Manager: Sharon Hall

Fax: (432) 687-5401

Reported:
09/19/04 11:17

ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------|---------------|--------|----------------|----------------|
| MW-1 | 4103009-01 | Water | 09/02/04 14:30 | 09/03/04 14:48 |

ARCADIS
1004 N. Big Spring Street
Midland TX, 79701

Project: Jct N-5/ 510
Project Number: Jct. N-5
Project Manager: Sharon Hall

Fax: (432) 687-5401

Reported:
09/19/04 11:17

Organics by GC
Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------------|--------------|--------------------|--------|----------|---------|----------|----------|-----------|-------|
| MW-1 (4103009-01) Water | | | | | | | | | |
| Benzene | J [0.000463] | 0.00100 | mg/L | 1 | EI41004 | 09/08/04 | 09/10/04 | EPA 8021B | J |
| Toluene | J [0.000870] | 0.00100 | " | " | " | " | " | " | J |
| Ethylbenzene | 0.00159 | 0.00100 | " | " | " | " | " | " | |
| Xylene (p/m) | 0.00160 | 0.00100 | " | " | " | " | " | " | |
| Xylene (o) | J [0.000982] | 0.00100 | " | " | " | " | " | " | J |
| Surrogate: a,a,a-Trifluorotoluene | | 98.5 % | 80-120 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 86.5 % | 80-120 | | " | " | " | " | |

ARCADIS
1004 N. Big Spring Street
Midland TX, 79701

Project: Jct N-5/ 510
Project Number: Jct. N-5
Project Manager: Sharon Hall

Fax: (432) 687-5401

Reported:
09/19/04 11:17

General Chemistry Parameters by EPA / Standard Methods
Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|--------------------------------|--------|--------------------|-------|----------|---------|----------|----------|------------|-------|
| MW-1 (4103009-01) Water | | | | | | | | | |
| Carbonate Alkalinity | ND | 0.100 | mg/L | 1 | EI41608 | 09/03/04 | 09/03/04 | EPA 310.2M | |
| Bicarbonate Alkalinity | 420 | 2.00 | " | " | " | " | " | " | |
| Hydroxide Alkalinity | ND | 0.100 | " | " | " | " | " | " | |
| Chloride | 1150 | 5.00 | " | " | EI40805 | 09/07/04 | 09/07/04 | EPA 325.3M | |
| Total Dissolved Solids | 3170 | 5.00 | " | " | EI41607 | 09/09/04 | 09/09/04 | EPA 160.1 | |
| Sulfate | 77.6 | 1.00 | " | 2 | EI41312 | 09/10/04 | 09/10/04 | EPA 375.4 | |

ARCADIS
1004 N. Big Spring Street
Midland TX, 79701

Project: Jct N-5/ 510
Project Number: Jct. N-5
Project Manager: Sharon Hall

Fax: (432) 687-5401

Reported:
09/19/04 11:17

Total Metals by EPA / Standard Methods
Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|--------------------------------|--------|--------------------|-------|----------|---------|----------|----------|-----------|-------|
| MW-1 (4103009-01) Water | | | | | | | | | |
| Calcium | 280 | 1.00 | mg/L | 100 | EI41506 | 09/15/04 | 09/15/04 | EPA 6010B | |
| Magnesium | 111 | 0.100 | " | " | " | " | " | " | |
| Potassium | 8.31 | 0.500 | " | 10 | " | " | " | " | |
| Sodium | 365 | 1.00 | " | 100 | " | " | " | " | |

ARCADIS
1004 N. Big Spring Street
Midland TX, 79701

Project: Jct N-5/ 510
Project Number: Jct. N-5
Project Manager: Sharon Hall

Fax: (432) 687-5401

Reported:
09/19/04 11:17

Organics by GC - Quality Control

Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------|--------|--------------------|-------|----------------|------------------|------|----------------|-----|--------------|-------|
|---------|--------|--------------------|-------|----------------|------------------|------|----------------|-----|--------------|-------|

Batch EI41004 - EPA 5030C (GC)

Blank (EI41004-BLK1)

Prepared & Analyzed: 09/08/04

| | | | | | | | | | | |
|-----------------------------------|------|---------|------|------|--|------|--------|--|--|--|
| Benzene | ND | 0.00100 | mg/L | | | | | | | |
| Toluene | ND | 0.00100 | " | | | | | | | |
| Ethylbenzene | ND | 0.00100 | " | | | | | | | |
| Xylene (p/m) | ND | 0.00100 | " | | | | | | | |
| Xylene (o) | ND | 0.00100 | " | | | | | | | |
| Surrogate: a,a,a-Trifluorotoluene | 23.4 | | ug/l | 20.0 | | 117 | 80-120 | | | |
| Surrogate: 4-Bromofluorobenzene | 18.3 | | " | 20.0 | | 91.5 | 80-120 | | | |

LCS (EI41004-BS1)

Prepared: 09/08/04 Analyzed: 09/10/04

| | | | | | | | | | | |
|-----------------------------------|------|--|------|------|--|------|--------|--|--|--|
| Benzene | 93.0 | | ug/l | 100 | | 93.0 | 80-120 | | | |
| Toluene | 95.0 | | " | 100 | | 95.0 | 80-120 | | | |
| Ethylbenzene | 95.1 | | " | 100 | | 95.1 | 80-120 | | | |
| Xylene (p/m) | 196 | | " | 200 | | 98.0 | 80-120 | | | |
| Xylene (o) | 104 | | " | 100 | | 104 | 80-120 | | | |
| Surrogate: a,a,a-Trifluorotoluene | 16.7 | | " | 20.0 | | 83.5 | 80-120 | | | |
| Surrogate: 4-Bromofluorobenzene | 18.6 | | " | 20.0 | | 93.0 | 80-120 | | | |

LCS Dup (EI41004-BSD1)

Prepared: 09/08/04 Analyzed: 09/10/04

| | | | | | | | | | | |
|-----------------------------------|------|--|------|------|--|------|--------|-------|----|--|
| Benzene | 96.3 | | ug/l | 100 | | 96.3 | 80-120 | 3.49 | 20 | |
| Toluene | 99.4 | | " | 100 | | 99.4 | 80-120 | 4.53 | 20 | |
| Ethylbenzene | 99.5 | | " | 100 | | 99.5 | 80-120 | 4.52 | 20 | |
| Xylene (p/m) | 206 | | " | 200 | | 103 | 80-120 | 4.98 | 20 | |
| Xylene (o) | 105 | | " | 100 | | 105 | 80-120 | 0.957 | 20 | |
| Surrogate: a,a,a-Trifluorotoluene | 18.0 | | " | 20.0 | | 90.0 | 80-120 | | | |
| Surrogate: 4-Bromofluorobenzene | 21.9 | | " | 20.0 | | 110 | 80-120 | | | |

Calibration Check (EI41004-CCV1)

Prepared & Analyzed: 09/08/04

| | | | | | | | | | | |
|-----------------------------------|------|--|------|------|--|------|--------|--|--|--|
| Benzene | 94.3 | | ug/l | 100 | | 94.3 | 80-120 | | | |
| Toluene | 95.8 | | " | 100 | | 95.8 | 80-120 | | | |
| Ethylbenzene | 102 | | " | 100 | | 102 | 80-120 | | | |
| Xylene (p/m) | 207 | | " | 200 | | 104 | 80-120 | | | |
| Xylene (o) | 105 | | " | 100 | | 105 | 80-120 | | | |
| Surrogate: a,a,a-Trifluorotoluene | 23.0 | | " | 20.0 | | 115 | 80-120 | | | |
| Surrogate: 4-Bromofluorobenzene | 18.6 | | " | 20.0 | | 93.0 | 80-120 | | | |

ARCADIS
1004 N. Big Spring Street
Midland TX, 79701

Project: Jct N-5/ 510
Project Number: Jct. N-5
Project Manager: Sharon Hall

Fax: (432) 687-5401

Reported:
09/19/04 11:17

Organics by GC - Quality Control
Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------|--------|--------------------|-------|----------------|------------------|------|----------------|-----|--------------|-------|
|---------|--------|--------------------|-------|----------------|------------------|------|----------------|-----|--------------|-------|

Batch EI41004 - EPA 5030C (GC)

Matrix Spike (EI41004-MS1) **Source: 4I07001-01** Prepared: 09/08/04 Analyzed: 09/10/04

| | | | | | | | | | | |
|-----------------------------------|------|--|------|------|----|------|--------|--|--|--|
| Benzene | 97.5 | | ug/l | 100 | ND | 97.5 | 80-120 | | | |
| Toluene | 101 | | " | 100 | ND | 101 | 80-120 | | | |
| Ethylbenzene | 97.8 | | " | 100 | ND | 97.8 | 80-120 | | | |
| Xylene (p/m) | 203 | | " | 200 | ND | 102 | 80-120 | | | |
| Xylene (o) | 102 | | " | 100 | ND | 102 | 80-120 | | | |
| Surrogate: a,a,a-Trifluorotoluene | 17.2 | | " | 20.0 | | 86.0 | 80-120 | | | |
| Surrogate: 4-Bromofluorobenzene | 20.9 | | " | 20.0 | | 104 | 80-120 | | | |

Matrix Spike Dup (EI41004-MSD1) **Source: 4I07001-01** Prepared: 09/08/04 Analyzed: 09/10/04

| | | | | | | | | | | |
|-----------------------------------|------|--|------|------|----|------|--------|------|----|--|
| Benzene | 99.0 | | ug/l | 100 | ND | 99.0 | 80-120 | 1.53 | 20 | |
| Toluene | 101 | | " | 100 | ND | 101 | 80-120 | 0.00 | 20 | |
| Ethylbenzene | 99.6 | | " | 100 | ND | 99.6 | 80-120 | 1.82 | 20 | |
| Xylene (p/m) | 201 | | " | 200 | ND | 100 | 80-120 | 1.98 | 20 | |
| Xylene (o) | 100 | | " | 100 | ND | 100 | 80-120 | 1.98 | 20 | |
| Surrogate: a,a,a-Trifluorotoluene | 16.5 | | " | 20.0 | | 82.5 | 80-120 | | | |
| Surrogate: 4-Bromofluorobenzene | 19.3 | | " | 20.0 | | 96.5 | 80-120 | | | |

ARCADIS
1004 N. Big Spring Street
Midland TX, 79701

Project: Jct N-5/ 510
Project Number: Jct. N-5
Project Manager: Sharon Hall

Fax: (432) 687-5401

Reported:
09/19/04 11:17

General Chemistry Parameters by EPA / Standard Methods - Quality Control
Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------|--------|--------------------|-------|----------------|------------------|------|----------------|-----|--------------|-------|
|---------|--------|--------------------|-------|----------------|------------------|------|----------------|-----|--------------|-------|

Batch EI40805 - General Preparation (WetChem)

Blank (EI40805-BLK1)

Prepared & Analyzed: 09/07/04

Chloride ND 5.00 mg/L

Matrix Spike (EI40805-MS1)

Source: 4I07001-06

Prepared & Analyzed: 09/07/04

Chloride 1670 5.00 mg/L 500 1170 100 90-110

Matrix Spike Dup (EI40805-MSD1)

Source: 4I07001-06

Prepared & Analyzed: 09/07/04

Chloride 1660 5.00 mg/L 500 1170 98.0 90-110 0.601 20

Reference (EI40805-SRM1)

Prepared & Analyzed: 09/07/04

Chloride 4960 mg/L 5000 99.2 80-120

Batch EI41312 - General Preparation (WetChem)

Blank (EI41312-BLK1)

Prepared & Analyzed: 09/10/04

Sulfate ND 0.500 mg/L

Calibration Check (EI41312-CCV1)

Prepared & Analyzed: 09/10/04

Sulfate 48.9 mg/L 50.0 97.8 80-120

Duplicate (EI41312-DUP1)

Source: 4I03010-01

Prepared & Analyzed: 09/10/04

Sulfate 76.4 0.500 mg/L 74.6 2.38 20

Batch EI41607 - Filtration Preparation

Blank (EI41607-BLK1)

Prepared & Analyzed: 09/09/04

Total Dissolved Solids ND 5.00 mg/L

ARCADIS
1004 N. Big Spring Street
Midland TX, 79701

Project: Jct N-5/ 510
Project Number: Jct. N-5
Project Manager: Sharon Hall

Fax: (432) 687-5401

Reported:
09/19/04 11:17

General Chemistry Parameters by EPA / Standard Methods - Quality Control
Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------|--------|--------------------|-------|----------------|------------------|------|----------------|-----|--------------|-------|
|---------|--------|--------------------|-------|----------------|------------------|------|----------------|-----|--------------|-------|

Batch EI41607 - Filtration Preparation

Duplicate (EI41607-DUP1) **Source: 4I03010-01** Prepared & Analyzed: 09/09/04

| | | | | | | | | | | |
|------------------------|------|------|------|--|------|--|--|------|----|--|
| Total Dissolved Solids | 1610 | 5.00 | mg/L | | 1640 | | | 1.85 | 20 | |
|------------------------|------|------|------|--|------|--|--|------|----|--|

Batch EI41608 - General Preparation (WetChem)

Blank (EI41608-BLK1) Prepared & Analyzed: 09/03/04

| | | | | | | | | | | |
|------------------------|----|-------|------|--|--|--|--|--|--|--|
| Carbonate Alkalinity | ND | 0.100 | mg/L | | | | | | | |
| Bicarbonate Alkalinity | ND | 2.00 | " | | | | | | | |
| Hydroxide Alkalinity | ND | 0.100 | " | | | | | | | |

Duplicate (EI41608-DUP1) **Source: 4I03010-01** Prepared & Analyzed: 09/03/04

| | | | | | | | | | | |
|------------------------|------|-------|------|--|------|--|--|-------|----|--|
| Carbonate Alkalinity | 0.00 | 0.100 | mg/L | | 0.00 | | | | 20 | |
| Bicarbonate Alkalinity | 444 | 2.00 | " | | 446 | | | 0.449 | 20 | |
| Hydroxide Alkalinity | 0.00 | 0.100 | " | | 0.00 | | | | 20 | |

Reference (EI41608-SRM1) Prepared & Analyzed: 09/03/04

| | | | | | | | | | | |
|----------------------|--------|--|------|--------|--|-----|--------|--|--|--|
| Carbonate Alkalinity | 0.0501 | | mg/L | 0.0500 | | 100 | 80-120 | | | |
|----------------------|--------|--|------|--------|--|-----|--------|--|--|--|

ARCADIS
1004 N. Big Spring Street
Midland TX, 79701

Project: Jct N-5/ 510
Project Number: Jct. N-5
Project Manager: Sharon Hall

Fax: (432) 687-5401

Reported:
09/19/04 11:17

Total Metals by EPA / Standard Methods - Quality Control
Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------|--------|--------------------|-------|----------------|------------------|------|----------------|-----|--------------|-------|
|---------|--------|--------------------|-------|----------------|------------------|------|----------------|-----|--------------|-------|

Batch EI41506 - General Preparation (Metals)

Blank (EI41506-BLK1)

Prepared & Analyzed: 09/15/04

| | | | |
|-----------|----|---------|------|
| Calcium | ND | 0.0100 | mg/L |
| Magnesium | ND | 0.00100 | " |
| Potassium | ND | 0.0500 | " |
| Sodium | ND | 0.0100 | " |

Blank (EI41506-BLK2)

Prepared & Analyzed: 09/15/04

| | | | |
|-----------|----|---------|------|
| Calcium | ND | 0.0100 | mg/L |
| Magnesium | ND | 0.00100 | " |
| Potassium | ND | 0.0500 | " |
| Sodium | ND | 0.0100 | " |

Calibration Check (EI41506-CCV1)

Prepared & Analyzed: 09/15/04

| | | | | | | |
|-----------|------|--|------|------|------|--------|
| Calcium | 2.03 | | mg/L | 2.00 | 102 | 85-115 |
| Magnesium | 2.04 | | " | 2.00 | 102 | 85-115 |
| Potassium | 1.75 | | " | 2.00 | 87.5 | 85-115 |
| Sodium | 1.79 | | " | 2.00 | 89.5 | 85-115 |

Calibration Check (EI41506-CCV2)

Prepared & Analyzed: 09/15/04

| | | | | | | |
|-----------|------|--|------|------|------|--------|
| Calcium | 1.93 | | mg/L | 2.00 | 96.5 | 85-115 |
| Magnesium | 2.02 | | " | 2.00 | 101 | 85-115 |
| Potassium | 1.76 | | " | 2.00 | 88.0 | 85-115 |
| Sodium | 1.77 | | " | 2.00 | 88.5 | 85-115 |

Duplicate (EI41506-DUP1)

Source: 4103009-01

Prepared & Analyzed: 09/15/04

| | | | | | | |
|-----------|------|-------|------|------|-------|----|
| Calcium | 281 | 1.00 | mg/L | 280 | 0.357 | 20 |
| Magnesium | 110 | 0.100 | " | 111 | 0.905 | 20 |
| Potassium | 8.18 | 0.500 | " | 8.31 | 1.58 | 20 |
| Sodium | 359 | 1.00 | " | 365 | 1.66 | 20 |

ARCADIS
1004 N. Big Spring Street
Midland TX, 79701

Project: Jct N-5/ 510
Project Number: Jct. N-5
Project Manager: Sharon Hall

Fax: (432) 687-5401

Reported:
09/19/04 11:17

Total Metals by EPA / Standard Methods - Quality Control
Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------|--------|--------------------|-------|----------------|------------------|------|----------------|-----|--------------|-------|
|---------|--------|--------------------|-------|----------------|------------------|------|----------------|-----|--------------|-------|

Batch EI41506 - General Preparation (Metals)

| Duplicate (EI41506-DUP2) | | Source: 4I10015-01 | | | Prepared & Analyzed: 09/15/04 | | | | | |
|--------------------------|------|--------------------|------|--|-------------------------------|--|-------|----|--|--|
| Calcium | 20.2 | 0.100 | mg/L | | 20.2 | | 0.00 | 20 | | |
| Magnesium | 28.4 | 0.0100 | " | | 28.6 | | 0.702 | 20 | | |
| Potassium | 16.4 | 0.500 | " | | 16.6 | | 1.21 | 20 | | |
| Sodium | 103 | 0.100 | " | | 103 | | 0.00 | 20 | | |

ARCADIS
1004 N. Big Spring Street
Midland TX, 79701

Project: Jct N-5/ 510
Project Number: Jct. N-5
Project Manager: Sharon Hall

Fax: (432) 687-5401

Reported:
09/19/04 11:17

Notes and Definitions

J Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference
LCS Laboratory Control Spike
MS Matrix Spike
Dup Duplicate

Report Approved By:

Raland K Tuttle

Date:

9-18-04

Raland K. Tuttle, Lab Manager
Celey D. Keene, Lab Director, Org. Tech Director
Peggy Allen, QA Officer

Jeanne Mc Murrey, Inorg. Tech Director
James L. Hawkins, Chemist/Geologist
Sandra Biezugbe, Lab Tech.

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-563-1800.

Environmental Lab of Texas

Variance / Corrective Action Report – Sample Log-In

Client: Archadis

Date/Time: 9-3-04

Order #: 4 IC3009 -01

Initials: AS

Sample Receipt Checklist

| | | | |
|---|---|-----------------------------|---|
| Temperature of container/cooler? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | 3.5 C |
| Shipping container/cooler in good condition? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | |
| Custody Seals intact on shipping container/cooler? | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input checked="" type="checkbox"/> Not present |
| Custody Seals intact on sample bottles? | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input checked="" type="checkbox"/> Not present |
| Chain of custody present? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | |
| Sample Instructions complete on Chain of Custody? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | |
| Chain of Custody signed when relinquished and received? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | |
| Chain of custody agrees with sample label(s) | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | |
| Container labels legible and intact? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | |
| Sample Matrix and properties same as on chain of custody? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | |
| Samples in proper container/bottle? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | |
| Samples properly preserved? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | |
| Sample bottles intact? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | |
| Preservations documented on Chain of Custody? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | |
| Containers documented on Chain of Custody? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | |
| Sufficient sample amount for indicated test? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | |
| All samples received within sufficient hold time? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | |
| VOC samples have zero headspace? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Not Applicable |

Other observations:

Variance Documentation:

Contact Person: - _____ Date/Time: _____ Contacted by: _____

Regarding:

Corrective Action Taken:



Laboratory Task Order No./P.O. No.

CHAIN-OF-CUSTODY RECORD

Page

of

Project Number/Name 24 N-S / 510
Project Location Lice Operative / GME
Laboratory Env. Lab of TX
Project Manager Kristin Farns Pope
Sampler(s)/Affiliation SG / ARCADIS

| Date/ Time | Time | Label |
|-----------------------|------|-------|
| Sampled | | |

| Sample ID/Location | Matrix | Sampled | Lab ID | Depth | Remarks | Total |
|--------------------|--------|---------|--------|-------|------------|-------|
| MW-1 | L | 9/2/04 | 1430 | 2 | 4103009-01 | 3 |

Sample Matrix: $S = \text{Liquid}; A = \text{Air}$

Sample Matrix: $\text{S} = \text{Liquid}; \text{A} = \text{Solid}; \text{A} = \text{Air}$

Relinquished by: *[Signature]* Organization: *[Signature]*

Received by: Paul dK 7.00

Relinquished by: _____ Organization: _____

Received by: _____ Organization: _____

Special Instructions/Remarks:

~~★~~ Please email analysis to krista.enuc@leao.net

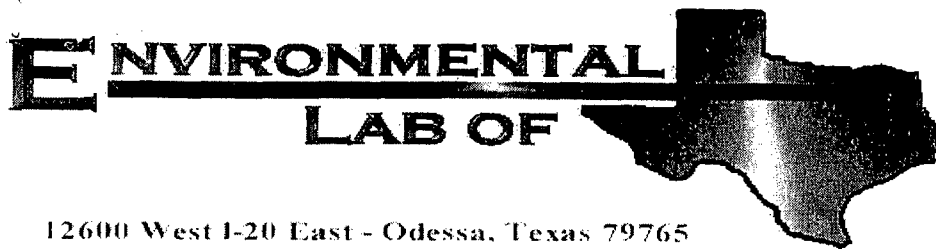
Delivery Method: ☒ In Person

☐ Common Carrier.☐ Lab Courier☐ Other

SPECIFY

SPECIFY

AG 05-0597



Analytical Report

Prepared for:

Sharon Hall

ARCADIS

1004 N. Big Spring Street

Midland, TX 79701

Project: Jct. N-5/ 510

Project Number: Jct. N-5/ 510

Location: Rice Operating/ EME

Lab Order Number: 4L22008

Report Date: 12/30/04

ARCADIS
1004 N. Big Spring Street
Midland TX, 79701

Project: Jct. N-5/ 510
Project Number: Jct. N-5/ 510
Project Manager: Sharon Hall

Fax: (432) 687-5401

Reported:
12/30/04 15:43

ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------|---------------|--------|----------------|----------------|
| MW-1 | 4L22008-01 | Water | 12/21/04 11:40 | 12/21/04 18:00 |

ARCADIS
1004 N. Big Spring Street
Midland TX, 79701

Project: Jct. N-5/ 510
Project Number: Jct. N-5/ 510
Project Manager: Sharon Hall

Fax: (432) 687-5401

Reported:
12/30/04 15:43

Organics by GC
Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------------|--------|--------------------|--------|----------|---------|----------|----------|-----------|-------|
| MW-1 (4L22008-01) Water | | | | | | | | | |
| Benzene | ND | 0.00100 | mg/L | 1 | EL43006 | 12/29/04 | 12/29/04 | EPA 8021B | |
| Toluene | ND | 0.00100 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.00100 | " | " | " | " | " | " | |
| Xylene (p/m) | ND | 0.00100 | " | " | " | " | " | " | |
| Xylene (o) | ND | 0.00100 | " | " | " | " | " | " | |
| Surrogate: a,a,a-Trifluorotoluene | | 101 % | 80-120 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 106 % | 80-120 | | " | " | " | " | |

ARCADIS
1004 N. Big Spring Street
Midland TX, 79701

Project: Jct. N-5/ 510
Project Number: Jct. N-5/ 510
Project Manager: Sharon Hall

Fax: (432) 687-5401

Reported:
12/30/04 15:43

General Chemistry Parameters by EPA / Standard Methods
Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|--------------------------------|-------------|--------------------|-------|----------|---------|----------|----------|------------|-------|
| MW-1 (4L22008-01) Water | | | | | | | | | |
| Total Alkalinity | 414 | 2.00 | mg/L | 1 | EL42907 | 12/29/04 | 12/29/04 | EPA 310.2M | |
| Chloride | 1330 | 5.00 | " | " | EL42908 | 12/29/04 | 12/29/04 | EPA 325.3M | |
| Total Dissolved Solids | 3990 | 5.00 | " | " | EL42301 | 12/22/04 | 12/23/04 | EPA 160.1 | |
| Sulfate | 231 | 2.50 | " | 5 | EL42909 | 12/29/04 | 12/29/04 | EPA 375.4 | |

ARCADIS
1004 N. Big Spring Street
Midland TX, 79701

Project: Jct. N-5/ 510
Project Number: Jct. N-5/ 510
Project Manager: Sharon Hall

Fax: (432) 687-5401

Reported:
01/03/05 15:13

Total Metals by EPA / Standard Methods
Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|--------------------------------|--------|--------------------|-------|----------|---------|----------|----------|-----------|-------|
| MW-1 (4L22008-01) Water | | | | | | | | | |
| Calcium | 358 | 1.00 | mg/L | 100 | EL42302 | 12/23/04 | 12/23/04 | EPA 6010B | |
| Magnesium | 142 | 0.100 | " | " | " | " | " | " | |
| Potassium | 10.1 | 0.500 | " | 10 | " | " | " | " | |
| Sodium | 373 | 1.00 | " | 100 | " | " | " | " | |

ARCADIS
1004 N. Big Spring Street
Midland TX, 79701

Project: Jct. N-5/ 510
Project Number: Jct. N-5/ 510
Project Manager: Sharon Hall

Fax: (432) 687-5401

Reported:
12/30/04 15:43

Organics by GC - Quality Control
Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------|--------|--------------------|-------|----------------|------------------|------|----------------|-----|--------------|-------|
|---------|--------|--------------------|-------|----------------|------------------|------|----------------|-----|--------------|-------|

Batch EL43006 - EPA 5030C (GC)

Blank (EL43006-BLK1)

Prepared & Analyzed: 12/29/04

| | | | | | | | | | | |
|-----------------------------------|------|---------|------|-----|--|------|--------|--|--|--|
| Benzene | ND | 0.00100 | mg/L | | | | | | | |
| Toluene | ND | 0.00100 | " | | | | | | | |
| Ethylbenzene | ND | 0.00100 | " | | | | | | | |
| Xylene (p/m) | ND | 0.00100 | " | | | | | | | |
| Xylene (o) | ND | 0.00100 | " | | | | | | | |
| Surrogate: a,a,a-Trifluorotoluene | 100 | | ug/l | 100 | | 100 | 80-120 | | | |
| Surrogate: 4-Bromofluorobenzene | 91.9 | | " | 100 | | 91.9 | 80-120 | | | |

LCS (EL43006-BS1)

Prepared & Analyzed: 12/29/04

| | | | | | | | | | | |
|-----------------------------------|------|--|------|-----|--|------|--------|--|--|--|
| Benzene | 86.8 | | ug/l | 100 | | 86.8 | 80-120 | | | |
| Toluene | 85.1 | | " | 100 | | 85.1 | 80-120 | | | |
| Ethylbenzene | 86.6 | | " | 100 | | 86.6 | 80-120 | | | |
| Xylene (p/m) | 191 | | " | 200 | | 95.5 | 80-120 | | | |
| Xylene (o) | 92.9 | | " | 100 | | 92.9 | 80-120 | | | |
| Surrogate: a,a,a-Trifluorotoluene | 117 | | " | 100 | | 117 | 80-120 | | | |
| Surrogate: 4-Bromofluorobenzene | 95.1 | | " | 100 | | 95.1 | 80-120 | | | |

Calibration Check (EL43006-CCV1)

Prepared & Analyzed: 12/29/04

| | | | | | | | | | | |
|-----------------------------------|------|--|------|-----|--|------|--------|--|--|--|
| Benzene | 89.5 | | ug/l | 100 | | 89.5 | 80-120 | | | |
| Toluene | 89.6 | | " | 100 | | 89.6 | 80-120 | | | |
| Ethylbenzene | 91.8 | | " | 100 | | 91.8 | 80-120 | | | |
| Xylene (p/m) | 201 | | " | 200 | | 100 | 80-120 | | | |
| Xylene (o) | 99.5 | | " | 100 | | 99.5 | 80-120 | | | |
| Surrogate: a,a,a-Trifluorotoluene | 115 | | " | 100 | | 115 | 80-120 | | | |
| Surrogate: 4-Bromofluorobenzene | 95.0 | | " | 100 | | 95.0 | 80-120 | | | |

Matrix Spike (EL43006-MS1)

Source: 4L22001-05

Prepared & Analyzed: 12/29/04

| | | | | | | | | | | |
|-----------------------------------|------|--|------|-----|----|------|--------|--|--|--|
| Benzene | 90.0 | | ug/l | 100 | ND | 90.0 | 80-120 | | | |
| Toluene | 91.6 | | " | 100 | ND | 91.6 | 80-120 | | | |
| Ethylbenzene | 91.4 | | " | 100 | ND | 91.4 | 80-120 | | | |
| Xylene (p/m) | 201 | | " | 200 | ND | 100 | 80-120 | | | |
| Xylene (o) | 95.8 | | " | 100 | ND | 95.8 | 80-120 | | | |
| Surrogate: a,a,a-Trifluorotoluene | 118 | | " | 100 | | 118 | 80-120 | | | |
| Surrogate: 4-Bromofluorobenzene | 102 | | " | 100 | | 102 | 80-120 | | | |

ARCADIS
1004 N. Big Spring Street
Midland TX, 79701

Project: Jct. N-5/ 510
Project Number: Jct. N-5/ 510
Project Manager: Sharon Hall

Fax: (432) 687-5401

Reported:
12/30/04 15:43

Organics by GC - Quality Control
Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------|--------|--------------------|-------|----------------|------------------|------|----------------|-----|--------------|-------|
|---------|--------|--------------------|-------|----------------|------------------|------|----------------|-----|--------------|-------|

Batch EL43006 - EPA 5030C (GC)

Matrix Spike Dup (EL43006-MSD1)

Source: 4L22001-05

Prepared & Analyzed: 12/29/04

| | | | | | | | | | | |
|---|------|--|------|-----|----|------|--------|-------|----|--|
| Benzene | 93.0 | | ug/l | 100 | ND | 93.0 | 80-120 | 3.28 | 20 | |
| Toluene | 94.6 | | " | 100 | ND | 94.6 | 80-120 | 3.22 | 20 | |
| Ethylbenzene | 92.4 | | " | 100 | ND | 92.4 | 80-120 | 1.09 | 20 | |
| Xylene (p/m) | 201 | | " | 200 | ND | 100 | 80-120 | 0.00 | 20 | |
| Xylene (o) | 95.6 | | " | 100 | ND | 95.6 | 80-120 | 0.209 | 20 | |
| Surrogate: <i>a,a,a</i> -Trifluorotoluene | 118 | | " | 100 | | 118 | 80-120 | | | |
| Surrogate: 4-Bromofluorobenzene | 102 | | " | 100 | | 102 | 80-120 | | | |

ARCADIS
1004 N. Big Spring Street
Midland TX, 79701

Project: Jct. N-5/ 510
Project Number: Jct. N-5/ 510
Project Manager: Sharon Hall

Fax: (432) 687-5401

Reported:
12/30/04 15:43

General Chemistry Parameters by EPA / Standard Methods - Quality Control
Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------|--------|--------------------|-------|----------------|------------------|------|----------------|-----|--------------|-------|
|---------|--------|--------------------|-------|----------------|------------------|------|----------------|-----|--------------|-------|

Batch EL42301 - 413.1

Blank (EL42301-BLK1)

Prepared: 12/22/04 Analyzed: 12/23/04

Total Dissolved Solids ND 5.00 mg/L

Duplicate (EL42301-DUP1)

Source: 4L21010-01

Prepared: 12/22/04 Analyzed: 12/23/04

Total Dissolved Solids 590 5.00 mg/L 567 3.98 20

Batch EL42907 - General Preparation (WetChem)

Blank (EL42907-BLK1)

Prepared & Analyzed: 12/29/04

Total Alkalinity ND 2.00 mg/L

Duplicate (EL42907-DUP1)

Source: 4L22002-01

Prepared & Analyzed: 12/29/04

Total Alkalinity 181 2.00 mg/L 182 0.551 20

Reference (EL42907-SRM1)

Prepared & Analyzed: 12/29/04

Carbonate Alkalinity 0.0501 mg/L 0.0500 100 80-120

Batch EL42908 - General Preparation (WetChem)

Blank (EL42908-BLK1)

Prepared & Analyzed: 12/29/04

Chloride ND 5.00 mg/L

Matrix Spike (EL42908-MS1)

Source: 4L21010-01

Prepared & Analyzed: 12/29/04

Chloride 390 5.00 mg/L 250 155 94.0 80-120

Matrix Spike Dup (EL42908-MSD1)

Source: 4L21010-01

Prepared & Analyzed: 12/29/04

Chloride 394 5.00 mg/L 250 155 95.6 80-120 1.02 20

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Reported:
12/30/04 15:43

General Chemistry Parameters by EPA / Standard Methods - Quality Control
Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------|--------|--------------------|-------|----------------|------------------|------|----------------|-----|--------------|-------|
|---------|--------|--------------------|-------|----------------|------------------|------|----------------|-----|--------------|-------|

Batch EL42908 - General Preparation (WetChem)

Reference (EL42908-SRM1)

Prepared & Analyzed: 12/29/04

| | | | | | | | | | | |
|----------|------|--|------|------|--|------|--------|--|--|--|
| Chloride | 4960 | | mg/L | 5000 | | 99.2 | 80-120 | | | |
|----------|------|--|------|------|--|------|--------|--|--|--|

Batch EL42909 - General Preparation (WetChem)

Blank (EL42909-BLK1)

Prepared & Analyzed: 12/29/04

| | | | | | | | | | | |
|---------|----|-------|------|--|--|--|--|--|--|--|
| Sulfate | ND | 0.500 | mg/L | | | | | | | |
|---------|----|-------|------|--|--|--|--|--|--|--|

Calibration Check (EL42909-CCV1)

Prepared & Analyzed: 12/29/04

| | | | | | | | | | | |
|---------|------|--|------|------|--|------|--------|--|--|--|
| Sulfate | 48.9 | | mg/L | 50.0 | | 97.8 | 80-120 | | | |
|---------|------|--|------|------|--|------|--------|--|--|--|

Duplicate (EL42909-DUP1)

Source: 4L21010-01

Prepared & Analyzed: 12/29/04

| | | | | | | | | | | |
|---------|------|------|------|--|------|--|--|------|----|--|
| Sulfate | 96.6 | 1.00 | mg/L | | 99.8 | | | 3.26 | 20 | |
|---------|------|------|------|--|------|--|--|------|----|--|

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Reported:
01/03/05 15:13

Total Metals by EPA / Standard Methods - Quality Control
Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------|--------|--------------------|-------|----------------|------------------|------|----------------|-----|--------------|-------|
|---------|--------|--------------------|-------|----------------|------------------|------|----------------|-----|--------------|-------|

Batch EL42302 - 6010B/No Digestion

Blank (EL42302-BLK1)

Prepared & Analyzed: 12/23/04

| | | | | | | | | | | |
|-----------|----|---------|------|--|--|--|--|--|--|--|
| Calcium | ND | 0.0100 | mg/L | | | | | | | |
| Magnesium | ND | 0.00100 | " | | | | | | | |
| Potassium | ND | 0.0500 | " | | | | | | | |
| Sodium | ND | 0.0100 | " | | | | | | | |

Calibration Check (EL42302-CCV1)

Prepared & Analyzed: 12/23/04

| | | | | | | | | | | |
|-----------|------|--|------|------|--|------|--------|--|--|--|
| Calcium | 2.00 | | mg/L | 2.00 | | 100 | 85-115 | | | |
| Magnesium | 2.28 | | " | 2.00 | | 114 | 85-115 | | | |
| Potassium | 1.78 | | " | 2.00 | | 89.0 | 85-115 | | | |
| Sodium | 1.92 | | " | 2.00 | | 96.0 | 85-115 | | | |

Duplicate (EL42302-DUP1)

Source: 4L21010-01RE1 Prepared & Analyzed: 12/23/04

| | | | | | | | | | | |
|-----------|------|--------|------|--|------|--|--|------|----|--|
| Calcium | 55.1 | 0.100 | mg/L | | 57.3 | | | 3.91 | 20 | |
| Magnesium | 13.2 | 0.0100 | " | | 13.0 | | | 1.53 | 20 | |
| Potassium | 12.5 | 0.500 | " | | 13.2 | | | 5.45 | 20 | |
| Sodium | 105 | 1.00 | " | | 112 | | | 6.45 | 20 | |

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Project: Jct. N-5/ 510
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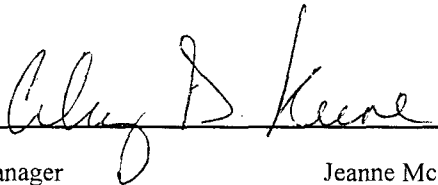
Fax: (432) 687-5401

Reported:
12/30/04 15:43

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference
LCS Laboratory Control Spike
MS Matrix Spike
Dup Duplicate

Report Approved By:



Date:

01/03/05

Raland K. Tuttle, Lab Manager
Celey D. Keene, Lab Director, Org. Tech Director
Peggy Allen, QA Officer

Jeanne Mc Murrey, Inorg. Tech Director
James L. Hawkins, Chemist/Geologist
Sandra Sanchez, Lab Tech.

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If you have received this material in error, please notify us immediately at 432-563-1800.

Environmental Lab of Texas

Variance / Corrective Action Report – Sample Log-In

Client: Arcadis

Date/Time: 12-21-04 @ 1800

Order #: 4L22008

Initials: JMM

Sample Receipt Checklist

| | | | | |
|---|---|----|---|---|
| Temperature of container/cooler? | <input checked="" type="checkbox"/> Yes | No | I.O | C |
| Shipping container/cooler in good condition? | <input checked="" type="checkbox"/> Yes | No | | |
| Custody Seals intact on shipping container/cooler? | Yes | No | <input checked="" type="checkbox"/> Not present | |
| Custody Seals intact on sample bottles? | Yes | No | <input checked="" type="checkbox"/> Not present | |
| Chain of custody present? | <input checked="" type="checkbox"/> Yes | No | | |
| Sample Instructions complete on Chain of Custody? | <input checked="" type="checkbox"/> Yes | No | | |
| Chain of Custody signed when relinquished and received? | <input checked="" type="checkbox"/> Yes | No | | |
| Chain of custody agrees with sample label(s) | <input checked="" type="checkbox"/> Yes | No | | |
| Container labels legible and intact? | <input checked="" type="checkbox"/> Yes | No | | |
| Sample Matrix and properties same as on chain of custody? | <input checked="" type="checkbox"/> Yes | No | | |
| Samples in proper container/bottle? | <input checked="" type="checkbox"/> Yes | No | | |
| Samples properly preserved? | <input checked="" type="checkbox"/> Yes | No | | |
| Sample bottles intact? | <input checked="" type="checkbox"/> Yes | No | | |
| Preservations documented on Chain of Custody? | <input checked="" type="checkbox"/> Yes | No | | |
| Containers documented on Chain of Custody? | <input checked="" type="checkbox"/> Yes | No | | |
| Sufficient sample amount for indicated test? | <input checked="" type="checkbox"/> Yes | No | | |
| All samples received within sufficient hold time? | <input checked="" type="checkbox"/> Yes | No | | |
| VOC samples have zero headspace? | <input checked="" type="checkbox"/> Yes | No | Not Applicable | |

Other observations:

Variance Documentation:

Contact Person: - _____ Date/Time: _____ Contacted by: _____
Regarding: _____

Corrective Action Taken:

| GC/ARCADIS |
|------------------------|
| Sampler(s)/Affiliation |

Time

Sample Matrix: L = Liquid; S = Solid; A = Air

Organization:

Special Instructions/Remarks:

AG 05-0597