HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

ENTERED

COVER LETTER

September 28, 2004

Cindy Hurtado
San Juan Refining
#50 CR 4990
Bloomfield, NM 87413
TEL: (505) 632-4161
FAX (505) 632-3911

RE: Inj Well 3rd Qtr 2004 Order No.: 0409046

Dear Cindy Hurtado:

Hall Environmental Analysis Laboratory received 2 samples on 9/3/2004 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

ACCREDITED IN ACCORDANCE WITH nelac

4901 Hawkins NE ■ Suite D ■ Albuquerque, NM 87109
505.345.3975 ■ Fax 505.345.4107
www.hallenvironmental.com

Hall Environmental Analysis Laboratory Date: *28-Sep-04*

CLIENT: San Juan Refining
Project: Inj Well 3rd Qtr 2004
Lab Order: 0409046

CASE NARRATIVE

METHOD: 8270C

HOLDING TIMES: All holding times for Preparation and Analysis were met.

METHOD: Preparations: 3510
Analysis: 8270C

PREPARATION: Sample preparation proceeded normally.

ANALYSIS:
1. Calibration: All acceptance criteria were met.
2. Blanks: The initial blank was spiked along with the first 3 samples. Results for these are reported from the re-extraction.
3. Internal Standards: Due to an incorrect internal standard batch surrogates failed in the initial extraction batch 6442
4. Surrogates: Surrogates were reported from QC batch 6493.
5. Spikes: Initial LCS/LCSD failed due to bad interanl standards.
6. Samples: Samples were re-extracted out of holdtime to confirm internal standards. All target analytes are non detect and results from both extraction batches are used.

Andy with Hall called -
our 8270 sample was inadvertantly spiked - the lab tech thought it was a blank.
8270 was re-extracted but out of hold time

Hall Environmental Analysis Laboratory

Date: *28-Sep-04*

CLIENT: San Juan Refining
Client Sample ID: Injection Well 3rd
Lab Order: 0409046
Collection Date: 9/2/2004 9:20:00 AM
Project: Inj Well 3rd Qtr 2004
Lab ID: 0409046-01
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Chloride	1200	5.0		mg/L	50	9/15/2004 2:49:36 PM
Sulfate	750	25		mg/L	50	9/15/2004 2:49:36 PM
EPA METHOD 310.1: ALKALINITY						Analyst: **CMC**
Alkalinity, Total (As CaCO3)	520	4.0		mg/L CaCO3	2	9/10/2004
Carbonate	16	4.0		mg/L CaCO3	2	9/10/2004
Bicarbonate	510	4.0		mg/L CaCO3	2	9/10/2004
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
Benzene	ND	10		µg/L	10	9/8/2004
Toluene	ND	10		µg/L	10	9/8/2004
Ethylbenzene	ND	10		µg/L	10	9/8/2004
Methyl tert-butyl ether (MTBE)	1300	10		µg/L	10	9/8/2004
1,2,4-Trimethylbenzene	ND	10		µg/L	10	9/8/2004
1,3,5-Trimethylbenzene	17	10		µg/L	10	9/8/2004
1,2-Dichloroethane (EDC)	ND	10		µg/L	10	9/8/2004
1,2-Dibromoethane (EDB)	ND	10		µg/L	10	9/8/2004
Naphthalene	ND	20		µg/L	10	9/8/2004
1-Methylnaphthalene	ND	40		µg/L	10	9/8/2004
2-Methylnaphthalene	ND	40		µg/L	10	9/8/2004
Acetone	ND	100		µg/L	10	9/8/2004
Bromobenzene	ND	10		µg/L	10	9/8/2004
Bromochloromethane	ND	10		µg/L	10	9/8/2004
Bromodichloromethane	ND	10		µg/L	10	9/8/2004
Bromoform	ND	10		µg/L	10	9/8/2004
Bromomethane	ND	20		µg/L	10	9/8/2004
2-Butanone	ND	100		µg/L	10	9/8/2004
Carbon disulfide	ND	100		µg/L	10	9/8/2004
Carbon Tetrachloride	ND	10		µg/L	10	9/8/2004
Chlorobenzene	ND	10		µg/L	10	9/8/2004
Chloroethane	ND	20		µg/L	10	9/8/2004
Chloroform	ND	10		µg/L	10	9/8/2004
Chloromethane	ND	10		µg/L	10	9/8/2004
2-Chlorotoluene	ND	10		µg/L	10	9/8/2004
4-Chlorotoluene	ND	10		µg/L	10	9/8/2004
cis-1,2-DCE	ND	10		µg/L	10	9/8/2004
cis-1,3-Dichloropropene	ND	10		µg/L	10	9/8/2004
1,2-Dibromo-3-chloropropane	ND	20		µg/L	10	9/8/2004
Dibromochloromethane	ND	10		µg/L	10	9/8/2004
Dibromomethane	ND	20		µg/L	10	9/8/2004
1,2-Dichlorobenzene	ND	10		µg/L	10	9/8/2004
1,3-Dichlorobenzene	ND	10		µg/L	10	9/8/2004

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *28-Sep-04*

CLIENT: San Juan Refining
Client Sample ID: Injection Well 3rd
Lab Order: 0409046
Collection Date: 9/2/2004 9:20:00 AM
Project: Inj Well 3rd Qtr 2004
Lab ID: 0409046-01
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
1,4-Dichlorobenzene	ND	10		µg/L	10	9/8/2004
Dichlorodifluoromethane	ND	10		µg/L	10	9/8/2004
1,1-Dichloroethane	ND	10		µg/L	10	9/8/2004
1,1-Dichloroethene	ND	10		µg/L	10	9/8/2004
1,2-Dichloropropane	ND	10		µg/L	10	9/8/2004
1,3-Dichloropropane	ND	10		µg/L	10	9/8/2004
2,2-Dichloropropane	ND	10		µg/L	10	9/8/2004
1,1-Dichloropropene	ND	10		µg/L	10	9/8/2004
Hexachlorobutadiene	ND	10		µg/L	10	9/8/2004
2-Hexanone	ND	100		µg/L	10	9/8/2004
Isopropylbenzene	ND	10		µg/L	10	9/8/2004
4-Isopropyltoluene	ND	10		µg/L	10	9/8/2004
4-Methyl-2-pentanone	ND	100		µg/L	10	9/8/2004
Methylene Chloride	ND	30		µg/L	10	9/8/2004
n-Butylbenzene	ND	10		µg/L	10	9/8/2004
n-Propylbenzene	ND	10		µg/L	10	9/8/2004
sec-Butylbenzene	ND	10		µg/L	10	9/8/2004
Styrene	ND	10		µg/L	10	9/8/2004
tert-Butylbenzene	ND	10		µg/L	10	9/8/2004
1,1,1,2-Tetrachloroethane	ND	10		µg/L	10	9/8/2004
1,1,2,2-Tetrachloroethane	ND	10		µg/L	10	9/8/2004
Tetrachloroethene (PCE)	ND	10		µg/L	10	9/8/2004
trans-1,2-DCE	ND	10		µg/L	10	9/8/2004
trans-1,3-Dichloropropene	ND	10		µg/L	10	9/8/2004
1,2,3-Trichlorobenzene	ND	10		µg/L	10	9/8/2004
1,2,4-Trichlorobenzene	ND	10		µg/L	10	9/8/2004
1,1,1-Trichloroethane	ND	10		µg/L	10	9/8/2004
1,1,2-Trichloroethane	ND	10		µg/L	10	9/8/2004
Trichloroethene (TCE)	ND	10		µg/L	10	9/8/2004
Trichlorofluoromethane	ND	10		µg/L	10	9/8/2004
1,2,3-Trichloropropane	ND	20		µg/L	10	9/8/2004
Vinyl chloride	ND	10		µg/L	10	9/8/2004
Xylenes, Total	ND	10		µg/L	10	9/8/2004
Surr: 1,2-Dichloroethane-d4	93.1	70.6-124		%REC	10	9/8/2004
Surr: 4-Bromofluorobenzene	102	76.4-130		%REC	10	9/8/2004
Surr: Dibromofluoromethane	91.6	67.2-131		%REC	10	9/8/2004
Surr: Toluene-d8	99.2	82.1-123		%REC	10	9/8/2004
EPA METHOD 8270C: SEMIVOLATILES						Analyst: GAB
Acenaphthene	ND	50		µg/L	1	9/18/2004
Acenaphthylene	ND	50		µg/L	1	9/18/2004
Aniline	ND	50		µg/L	1	9/18/2004
Anthracene	ND	50		µg/L	1	9/23/2004

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Azobenzene	ND	50		µg/L	1	9/18/2004
Benz(a)anthracene	ND	75		µg/L	1	9/23/2004
Benzo(a)pyrene	ND	50		µg/L	1	9/23/2004
Benzo(b)fluoranthene	ND	50		µg/L	1	9/23/2004
Benzo(g,h,i)perylene	ND	50		µg/L	1	9/18/2004
Benzo(k)fluoranthene	ND	50		µg/L	1	9/23/2004
Benzoic acid	ND	250		µg/L	1	9/18/2004
Benzyl alcohol	ND	100		µg/L	1	9/18/2004
Bis(2-chloroethoxy)methane	ND	50		µg/L	1	9/18/2004
Bis(2-chloroethyl)ether	ND	75		µg/L	1	9/18/2004
Bis(2-chloroisopropyl)ether	ND	75		µg/L	1	9/18/2004
Bis(2-ethylhexyl)phthalate	ND	75		µg/L	1	9/23/2004
4-Bromophenyl phenyl ether	ND	50		µg/L	1	9/18/2004
Butyl benzyl phthalate	ND	75		µg/L	1	9/23/2004
Carbazole	ND	50		µg/L	1	9/18/2004
4-Chloro-3-methylphenol	ND	100		µg/L	1	9/18/2004
4-Chloroaniline	ND	100		µg/L	1	9/18/2004
2-Chloronaphthalene	ND	50		µg/L	1	9/18/2004
2-Chlorophenol	ND	50		µg/L	1	9/18/2004
4-Chlorophenyl phenyl ether	ND	75		µg/L	1	9/18/2004
Chrysene	ND	75		µg/L	1	9/23/2004
Di-n-butyl phthalate	ND	50		µg/L	1	9/23/2004
Di-n-octyl phthalate	ND	75		µg/L	1	9/23/2004
Dibenz(a,h)anthracene	ND	50		µg/L	1	9/23/2004
Dibenzofuran	ND	50		µg/L	1	9/23/2004
1,2-Dichlorobenzene	ND	50		µg/L	1	9/23/2004
1,3-Dichlorobenzene	ND	50		µg/L	1	9/23/2004
1,4-Dichlorobenzene	ND	50		µg/L	1	9/23/2004
3,3'-Dichlorobenzidine	ND	75		µg/L	1	9/18/2004
Diethyl phthalate	ND	50		µg/L	1	9/23/2004
Dimethyl phthalate	ND	50		µg/L	1	9/23/2004
2,4-Dichlorophenol	ND	50		µg/L	1	9/18/2004
2,4-Dimethylphenol	ND	50		µg/L	1	9/18/2004
4,6-Dinitro-2-methylphenol	ND	250		µg/L	1	9/18/2004
2,4-Dinitrophenol	ND	250		µg/L	1	9/18/2004
2,4-Dinitrotoluene	ND	50		µg/L	1	9/18/2004
2,6-Dinitrotoluene	ND	50		µg/L	1	9/18/2004
Fluoranthene	ND	50		µg/L	1	9/23/2004
Fluorene	ND	50		µg/L	1	9/18/2004
Hexachlorobenzene	ND	50		µg/L	1	9/18/2004
Hexachlorobutadiene	ND	50		µg/L	1	9/18/2004
Hexachlorocyclopentadiene	ND	50		µg/L	1	9/18/2004

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Date: *28-Sep-04*

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Project: Inj Well 3rd Qtr 2004
Lab ID: 0409046-01

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Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Hexachloroethane	ND	50		µg/L	1	9/18/2004
Indeno(1,2,3-cd)pyrene	ND	50		µg/L	1	9/23/2004
Isophorone	ND	50		µg/L	1	9/18/2004
2-Methylnaphthalene	ND	50		µg/L	1	9/18/2004
2-Methylphenol	ND	75		µg/L	1	9/18/2004
3+4-Methylphenol	ND	50		µg/L	1	9/18/2004
N-Nitrosodi-n-propylamine	ND	50		µg/L	1	9/18/2004
N-Nitrosodimethylamine	ND	50		µg/L	1	9/18/2004
N-Nitrosodiphenylamine	ND	50		µg/L	1	9/18/2004
Naphthalene	ND	50		µg/L	1	9/23/2004
2-Nitroaniline	ND	250		µg/L	1	9/18/2004
3-Nitroaniline	ND	250		µg/L	1	9/18/2004
4-Nitroaniline	ND	100		µg/L	1	9/18/2004
Nitrobenzene	ND	50		µg/L	1	9/18/2004
2-Nitrophenol	ND	75		µg/L	1	9/18/2004
4-Nitrophenol	ND	250		µg/L	1	9/18/2004
Pentachlorophenol	ND	250		µg/L	1	9/18/2004
Phenanthrene	ND	50		µg/L	1	9/23/2004
Phenol	ND	50		µg/L	1	9/18/2004
Pyrene	ND	75		µg/L	1	9/23/2004
Pyridine	ND	150		µg/L	1	9/23/2004
1,2,4-Trichlorobenzene	ND	50		µg/L	1	9/18/2004
2,4,5-Trichlorophenol	ND	50		µg/L	1	9/18/2004
2,4,6-Trichlorophenol	ND	75		µg/L	1	9/18/2004
Surr: 2,4,6-Tribromophenol	80.0	16.6-115		%REC	1	9/23/2004
Surr: 2,4,6-Tribromophenol	37.3	16.6-115		%REC	1	9/18/2004
Surr: 2-Fluorobiphenyl	64.0	37-95.7		%REC	1	9/23/2004
Surr: 2-Fluorophenol	25.7	9.54-89.8		%REC	1	9/18/2004
Surr: 2-Fluorophenol	49.0	9.54-89.8		%REC	1	9/23/2004
Surr: 4-Terphenyl-d14	71.4	47.9-115		%REC	1	9/23/2004
Surr: Nitrobenzene-d5	35.9	38-106	S	%REC	1	9/18/2004
Surr: Nitrobenzene-d5	58.1	38-106		%REC	1	9/23/2004
Surr: Phenol-d6	22.2	10.7-63.4		%REC	1	9/18/2004
Surr: Phenol-d6	37.2	10.7-63.4		%REC	1	9/23/2004
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **CMC**
Specific Conductance	5200	0.010		µmhos/cm	1	9/8/2004
EPA METHOD 7470: MERCURY						Analyst: **CMC**
Mercury	0.017	0.0010		mg/L	5	9/7/2004
EPA 6010C: TOTAL RECOVERABLE METALS						Analyst: **NMO**
Arsenic	0.045	0.020		mg/L	1	9/17/2004 3:02:59 PM
Barium	0.14	0.020		mg/L	1	9/17/2004 3:02:59 PM

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R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *28-Sep-04*

CLIENT: San Juan Refining
Client Sample ID: Injection Well 3rd
Lab Order: 0409046
Collection Date: 9/2/2004 9:20:00 AM
Project: Inj Well 3rd Qtr 2004
Lab ID: 0409046-01
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Cadmium	ND	0.0020		mg/L	1	9/17/2004 3:02:59 PM
Calcium	35	1.0		mg/L	1	9/17/2004 3:02:59 PM
Chromium	0.0080	0.0060		mg/L	1	9/17/2004 3:02:59 PM
Lead	ND	0.0050		mg/L	1	9/17/2004 3:02:59 PM
Magnesium	14	1.0		mg/L	1	9/17/2004 3:02:59 PM
Potassium	13	1.0		mg/L	1	9/17/2004 3:02:59 PM
Selenium	ND	0.050		mg/L	1	9/17/2004 3:02:59 PM
Silver	ND	0.0050		mg/L	1	9/20/2004 8:12:42 AM
Sodium	1000	100		mg/L	100	9/17/2004 3:42:18 PM
EPA METHOD 150.1: PH						Analyst: CMC
pH	8.36	0.010		pH units	1	9/10/2004

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E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *28-Sep-04*

CLIENT: San Juan Refining
Client Sample ID: Trip Blank
Lab Order: 0409046
Collection Date:
Project: Inj Well 3rd Qtr 2004
Lab ID: 0409046-02
Matrix: TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
Benzene	ND	1.0		µg/L	1	9/8/2004
Toluene	ND	1.0		µg/L	1	9/8/2004
Ethylbenzene	ND	1.0		µg/L	1	9/8/2004
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/8/2004
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/8/2004
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/8/2004
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	9/8/2004
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/8/2004
Naphthalene	ND	2.0		µg/L	1	9/8/2004
1-Methylnaphthalene	ND	4.0		µg/L	1	9/8/2004
2-Methylnaphthalene	ND	4.0		µg/L	1	9/8/2004
Acetone	ND	10		µg/L	1	9/8/2004
Bromobenzene	ND	1.0		µg/L	1	9/8/2004
Bromochloromethane	ND	1.0		µg/L	1	9/8/2004
Bromodichloromethane	ND	1.0		µg/L	1	9/8/2004
Bromoform	ND	1.0		µg/L	1	9/8/2004
Bromomethane	ND	2.0		µg/L	1	9/8/2004
2-Butanone	ND	10		µg/L	1	9/8/2004
Carbon disulfide	ND	10		µg/L	1	9/8/2004
Carbon Tetrachloride	ND	1.0		µg/L	1	9/8/2004
Chlorobenzene	ND	1.0		µg/L	1	9/8/2004
Chloroethane	ND	2.0		µg/L	1	9/8/2004
Chloroform	ND	1.0		µg/L	1	9/8/2004
Chloromethane	ND	1.0		µg/L	1	9/8/2004
2-Chlorotoluene	ND	1.0		µg/L	1	9/8/2004
4-Chlorotoluene	ND	1.0		µg/L	1	9/8/2004
cis-1,2-DCE	ND	1.0		µg/L	1	9/8/2004
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/8/2004
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/8/2004
Dibromochloromethane	ND	1.0		µg/L	1	9/8/2004
Dibromomethane	ND	2.0		µg/L	1	9/8/2004
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/8/2004
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/8/2004
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/8/2004
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/8/2004
1,1-Dichloroethane	ND	1.0		µg/L	1	9/8/2004
1,1-Dichloroethene	ND	1.0		µg/L	1	9/8/2004
1,2-Dichloropropane	ND	1.0		µg/L	1	9/8/2004
1,3-Dichloropropane	ND	1.0		µg/L	1	9/8/2004
2,2-Dichloropropane	ND	1.0		µg/L	1	9/8/2004
1,1-Dichloropropene	ND	1.0		µg/L	1	9/8/2004

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Hall Environmental Analysis Laboratory

Date: *28-Sep-04*

CLIENT: San Juan Refining
Client Sample ID: Trip Blank
Lab Order: 0409046
Collection Date:
Project: Inj Well 3rd Qtr 2004
Lab ID: 0409046-02
Matrix: TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Hexachlorobutadiene	ND	1.0		µg/L	1	9/8/2004
2-Hexanone	ND	10		µg/L	1	9/8/2004
Isopropylbenzene	ND	1.0		µg/L	1	9/8/2004
4-Isopropyltoluene	ND	1.0		µg/L	1	9/8/2004
4-Methyl-2-pentanone	ND	10		µg/L	1	9/8/2004
Methylene Chloride	ND	3.0		µg/L	1	9/8/2004
n-Butylbenzene	ND	1.0		µg/L	1	9/8/2004
n-Propylbenzene	ND	1.0		µg/L	1	9/8/2004
sec-Butylbenzene	ND	1.0		µg/L	1	9/8/2004
Styrene	ND	1.0		µg/L	1	9/8/2004
tert-Butylbenzene	ND	1.0		µg/L	1	9/8/2004
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/8/2004
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	9/8/2004
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/8/2004
trans-1,2-DCE	ND	1.0		µg/L	1	9/8/2004
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/8/2004
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/8/2004
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/8/2004
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/8/2004
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/8/2004
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/8/2004
Trichlorofluoromethane	ND	1.0		µg/L	1	9/8/2004
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/8/2004
Vinyl chloride	ND	1.0		µg/L	1	9/8/2004
Xylenes, Total	ND	1.0		µg/L	1	9/8/2004
Surr: 1,2-Dichloroethane-d4	93.5	70.6-124		%REC	1	9/8/2004
Surr: 4-Bromofluorobenzene	103	76.4-130		%REC	1	9/8/2004
Surr: Dibromofluoromethane	88.3	67.2-131		%REC	1	9/8/2004
Surr: Toluene-d8	106	82.1-123		%REC	1	9/8/2004

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

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LABORATORY ANALYTICAL REPORT

Client: Hall Environmental-Albuquerque
Project: Inj Well
Lab ID: B04090453-001
Client Sample ID: Injection Well 3rd, 0409046-01E

Report Date: 09/17/04
Collection Date: 09/02/04 09:20
Date Received: 09/08/04
Matrix: Aqueous

Analyses	Result	Units	Qual	RL	MCL/ QCL	Method	Analysis Date / By
INORGANICS							
Sulfide	ND	mg/L		1		E376.1	09/08/04 13:00 / pwc
IGNITABILITY							
Flash Point (Ignitability)	>200	°F		30		SW1010	09/08/04 13:30 / mgs
CORROSIVITY							
pH of Liquid Waste	8.21	s.u.		0.10		SW9040B	09/08/04 13:00 / mgs
REACTIVITY							
Cyanide, Reactive	ND	mg/kg		0.05	250	SW846 Ch 7	09/15/04 10:05 / kjp
Sulfide, Reactive	ND	mg/kg		20	500	SW846 Ch 7	09/14/04 08:00 / pwc

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

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QA/QC Summary Report

Client: Hall Environmental-Albuquerque
Project: Inj Well

Report Date: 09/09/04
Work Order: B04090453

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **E376.1**								Batch: 040908A-SULFIDE-TTR-W	
Sample ID: **B04090456-002BDUP**	Sample Duplicate							09/08/04 13:00	
Sulfide	1320	mg/L	1.0				1.5	20	
Sample ID: **B04090456-002BMS**	Sample Matrix Spike							09/08/04 13:00	
Sulfide	2400	mg/L	1.0	98.1	80	120			
Sample ID: **B04090456-002BMSD**	Sample Matrix Spike Duplicate							09/08/04 13:00	
Sulfide	2400	mg/L	1.0	98.1	80	120	0	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

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QA/QC Summary Report

Client: Hall Environmental-Albuquerque
Project: Inj Well

Report Date: 09/15/04
Work Order: B04090453

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW846 Ch 7									Batch: 12267
Sample ID: MB-12267	Method Blank								09/15/04 10:07
Cyanide, Reactive	ND	mg/kg	0.05						
Method: SW846 Ch 7									Batch: R47626
Sample ID: MB-R47626	Method Blank								09/14/04 08:00
Sulfide, Reactive	ND	mg/kg	10						
Sample ID: LCS-R47626	Laboratory Control Spike								09/14/04 08:00
Sulfide, Reactive	22	mg/kg	20	71	50	150			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Hall Environmental Analysis Laboratory

Date: *28-Sep-04*

CLIENT: San Juan Refining
Work Order: 0409046
Project: Inj Well 3rd Qtr 2004

QC SUMMARY REPORT
Method Blank

Sample ID **MBLK** Batch ID: **R13106** Test Code: **E300** Units: **mg/L** Analysis Date **9/13/2004 12:12:52 PM** Prep Date
Client ID: Run ID: **LC_040913A** SeqNo: **304865**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.1									
Sulfate	ND	0.5									

Sample ID **MBLK** Batch ID: **R13133** Test Code: **E300** Units: **mg/L** Analysis Date **9/15/2004 2:15:58 PM** Prep Date
Client ID: Run ID: **LC_040915A** SeqNo: **305674**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.1									
Sulfate	ND	0.5									

Sample ID **MBLK** Batch ID: **R13133** Test Code: **E300** Units: **mg/L** Analysis Date **9/16/2004 12:37:40 AM** Prep Date
Client ID: Run ID: **LC_040915A** SeqNo: **305695**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	0.1383	0.1									
Sulfate	ND	0.5									

12/28

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

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CLIENT: San Juan Refining
Work Order: 0409046
Project: Inj Well 3rd Qtr 2004

QC SUMMARY REPORT
Method Blank

Sample ID **mb-6493** Batch ID: **6493** Test Code: **SW8270A** Units: **µg/L** Analysis Date **9/23/2004** Prep Date **9/16/2004**
Client ID: Run ID: **ELMO_040922A** SeqNo: **308219**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	ND	10									
Acenaphthylene	ND	10									
Aniline	ND	10									
Anthracene	ND	10									
Azobenzene	ND	10									
Benz(a)anthracene	ND	15									
Benzo(a)pyrene	ND	10									
Benzo(b)fluoranthene	ND	10									
Benzo(g,h,i)perylene	ND	10									
Benzo(k)fluoranthene	ND	10									
Benzoic acid	ND	50									
Benzyl alcohol	ND	20									
Bis(2-chloroethoxy)methane	ND	10									
Bis(2-chloroethyl)ether	ND	15									
Bis(2-chloroisopropyl)ether	ND	15									
Bis(2-ethylhexyl)phthalate	ND	15									
4-Bromophenyl phenyl ether	ND	10									
Butyl benzyl phthalate	ND	15									
Carbazole	ND	10									
4-Chloro-3-methylphenol	ND	20									
4-Chloroaniline	ND	20									
2-Chloronaphthalene	ND	10									
2-Chlorophenol	ND	10									
4-Chlorophenyl phenyl ether	ND	15									
Chrysene	ND	15									
Di-n-butyl phthalate	ND	10									
Di-n-octyl phthalate	ND	15									
Dibenz(a,h)anthracene	ND	10									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: San Juan Refining
Work Order: 0409046
Project: Inj Well 3rd Qtr 2004

QC SUMMARY REPORT
Method Blank

Dibenzofuran	ND	10
1,2-Dichlorobenzene	ND	10
1,3-Dichlorobenzene	ND	10
1,4-Dichlorobenzene	ND	10
3,3'-Dichlorobenzidine	ND	15
Diethyl phthalate	ND	10
Dimethyl phthalate	ND	10
2,4-Dichlorophenol	ND	10
2,4-Dimethylphenol	ND	10
4,6-Dinitro-2-methylphenol	ND	50
2,4-Dinitrophenol	ND	50
2,4-Dinitrotoluene	ND	10
2,6-Dinitrotoluene	ND	10
Fluoranthene	ND	10
Fluorene	ND	10
Hexachlorobenzene	ND	10
Hexachlorobutadiene	ND	10
Hexachlorocyclopentadiene	ND	10
Hexachloroethane	ND	10
Indeno(1,2,3-cd)pyrene	ND	10
Isophorone	ND	10
2-Methylnaphthalene	ND	10
2-Methylphenol	ND	15
3+4-Methylphenol	ND	10
N-Nitrosodi-n-propylamine	ND	10
N-Nitrosodimethylamine	ND	10
N-Nitrosodiphenylamine	ND	10
Naphthalene	ND	10
2-Nitroaniline	ND	50
3-Nitroaniline	ND	50
4-Nitroaniline	ND	20
Nitrobenzene	ND	10
2-Nitrophenol	ND	15

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: San Juan Refining
Work Order: 0409046
Project: Inj Well 3rd Qtr 2004

QC SUMMARY REPORT
Method Blank

4-Nitrophenol	ND	50						
Pentachlorophenol	ND	50						
Phenanthrene	ND	10						
Phenol	ND	10						
Pyrene	ND	15						
Pyridine	ND	30						
1,2,4-Trichlorobenzene	ND	10						
2,4,5-Trichlorophenol	ND	10						
2,4,6-Trichlorophenol	ND	15						
Surr: 2,4,6-Tribromophenol	71.32	0	200	0	35.7	16.6	115	0
Surr: 2-Fluorobiphenyl	58.44	0	100	0	58.4	37	95.7	0
Surr: 2-Fluorophenol	106.8	0	200	0	53.4	9.54	89.8	0
Surr: 4-Terphenyl-d14	96.36	0	100	0	96.4	51.2	125	0
Surr: Nitrobenzene-d5	63.66	0	100	0	63.7	38	106	0
Surr: Phenol-d6	76.32	0	200	0	38.2	10.7	63.4	0

Sample ID **MB-6436** Batch ID: **6436** Test Code: **SW7470** Units: **mg/L** Analysis Date **9/7/2004** Prep Date **9/7/2004**
Client ID: Run ID: **MI-LA254_040907A** SeqNo: **302914**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0001224	0.0002									J

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: San Juan Refining
Work Order: 0409046
Project: Inj Well 3rd Qtr 2004

QC SUMMARY REPORT

Method Blank

Sample ID **MB-6492** Batch ID: **6492** Test Code: **SW6010A** Units: **mg/L** Analysis Date **9/17/2004 2:52:50 PM** Prep Date **9/16/2004**
Client ID: Run ID: **ICP_040917A** SeqNo: **306647**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.02									
Barium	ND	0.02									
Cadmium	0.001101	0.002									J
Calcium	ND	1									
Chromium	ND	0.006									
Lead	0.003158	0.005									J
Magnesium	ND	1									
Potassium	ND	1									
Selenium	ND	0.05									
Sodium	ND	1									

Sample ID **MB-6492** Batch ID: **6492** Test Code: **SW6010A** Units: **mg/L** Analysis Date **9/20/2004 11:27:57 AM** Prep Date **9/16/2004**
Client ID: Run ID: **ICP_040920A** SeqNo: **306678**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.02									
Barium	ND	0.02									
Cadmium	ND	0.002									
Calcium	ND	1									
Chromium	ND	0.006									
Lead	ND	0.005									
Magnesium	ND	1									
Potassium	ND	1									
Selenium	ND	0.05									
Sodium	ND	1									

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Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: San Juan Refining
Work Order: 0409046
Project: Inj Well 3rd Qtr 2004

QC SUMMARY REPORT
Method Blank

Sample ID **MB-6492** Batch ID: **6492** Test Code: **SW6010A** Units: **mg/L** Analysis Date **9/20/2004 12:31:59 PM** Prep Date **9/16/2004**
Client ID: Run ID: **ICP_040920A** SeqNo: **306682**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	ND	0.005									

Sample ID **MB-6492** Batch ID: **6492** Test Code: **SW6010A** Units: **mg/L** Analysis Date **9/20/2004 8:05:04 AM** Prep Date **9/16/2004**
Client ID: Run ID: **ICP_040920E** SeqNo: **307231**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	ND	0.005									

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Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: *28-Sep-04*

CLIENT: San Juan Refining
Work Order: 0409046
Project: Inj Well 3rd Qtr 2004

QC SUMMARY REPORT

Method Blank

Sample ID **5ml rb** Batch ID: **R13035** Test Code: **SW8260B** Units: **µg/L** Analysis Date **9/7/2004** Prep Date

Client ID: Run ID: **THOR_040907A** SeqNo: **303134**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	1									
Toluene	ND	1									
Ethylbenzene	ND	1									
Methyl tert-butyl ether (MTBE)	ND	1									
1,2,4-Trimethylbenzene	ND	1									
1,3,5-Trimethylbenzene	ND	1									
1,2-Dichloroethane (EDC)	ND	1									
1,2-Dibromoethane (EDB)	ND	1									
Naphthalene	ND	2									
1-Methylnaphthalene	ND	4									
2-Methylnaphthalene	ND	4									
Acetone	ND	10									
Bromobenzene	ND	1									
Bromochloromethane	ND	1									
Bromodichloromethane	ND	1									
Bromoform	ND	1									
Bromomethane	0.39	2									J
2-Butanone	ND	10									
Carbon disulfide	ND	10									
Carbon Tetrachloride	ND	1									
Chlorobenzene	ND	1									
Chloroethane	ND	2									
Chloroform	ND	1									
Chloromethane	ND	1									
2-Chlorotoluene	ND	1									
4-Chlorotoluene	ND	1									
cis-1,2-DCE	ND	1									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: San Juan Refining
Work Order: 0409046
Project: Inj Well 3rd Qtr 2004

QC SUMMARY REPORT
Method Blank

cis-1,3-Dichloropropene	ND	1
1,2-Dibromo-3-chloropropane	ND	2
Dibromochloromethane	ND	1
Dibromomethane	ND	2
1,2-Dichlorobenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1
Dichlorodifluoromethane	ND	1
1,1-Dichloroethane	ND	1
1,1-Dichloroethene	ND	1
1,2-Dichloropropane	ND	1
1,3-Dichloropropane	ND	1
2,2-Dichloropropane	ND	1
1,1-Dichloropropene	ND	1
Hexachlorobutadiene	ND	1
2-Hexanone	ND	10
Isopropylbenzene	ND	1
4-Isopropyltoluene	ND	1
4-Methyl-2-pentanone	ND	10
Methylene Chloride	ND	3
n-Butylbenzene	ND	1
n-Propylbenzene	ND	1
sec-Butylbenzene	ND	1
Styrene	ND	1
tert-Butylbenzene	ND	1
1,1,1,2-Tetrachloroethane	ND	1
1,1,2,2-Tetrachloroethane	ND	1
Tetrachloroethene (PCE)	ND	1
trans-1,2-DCE	ND	1
trans-1,3-Dichloropropene	ND	1
1,2,3-Trichlorobenzene	ND	1
1,2,4-Trichlorobenzene	ND	1
1,1,1-Trichloroethane	ND	1

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: San Juan Refining
Work Order: 0409046
Project: Inj Well 3rd Qtr 2004

QC SUMMARY REPORT

Method Blank

1,1,2-Trichloroethane	ND	1						
Trichloroethene (TCE)	ND	1						
Trichlorofluoromethane	ND	1						
1,2,3-Trichloropropane	ND	2						
Vinyl chloride	ND	1						
Xylenes, Total	ND	1						
Surr: 1,2-Dichloroethane-d4	9.374	0	10	0	93.7	68.4	127	0
Surr: 4-Bromofluorobenzene	10.18	0	10	0	102	70.4	126	0
Surr: Dibromofluoromethane	9.394	0	10	0	93.9	70.2	126	0
Surr: Toluene-d8	10.45	0	10	0	104	73.5	129	0

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Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: San Juan Refining
Work Order: 0409046
Project: Inj Well 3rd Qtr 2004

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID **LCS** Batch ID: **R13106** Test Code: **E300** Units: **mg/L** Analysis Date **9/13/2004 12:29:41 PM** Prep Date
Client ID: Run ID: **LC_040913A** SeqNo: **304866**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	4.506	0.1	5	0	90.1	90	110	0			
Sulfate	9.159	0.5	10	0	91.6	90	110	0			

Sample ID **LCS** Batch ID: **R13133** Test Code: **E300** Units: **mg/L** Analysis Date **9/15/2004 2:32:47 PM** Prep Date
Client ID: Run ID: **LC_040915A** SeqNo: **305675**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	5.051	0.1	5	0.1383	98.3	90	110	0			
Sulfate	9.823	0.5	10	0	98.2	90	110	0			

Sample ID **LCS** Batch ID: **R13133** Test Code: **E300** Units: **mg/L** Analysis Date **9/16/2004 12:54:28 AM** Prep Date
Client ID: Run ID: **LC_040915A** SeqNo: **305696**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	4.74	0.1	5	0.1383	92.0	90	110	0			
Sulfate	9.821	0.5	10	0	98.2	90	110	0			

Sample ID **100ng lcs** Batch ID: **R13035** Test Code: **SW8260B** Units: **µg/L** Analysis Date **9/7/2004** Prep Date
Client ID: Run ID: **THOR_040907A** SeqNo: **303135**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.98	1	20	0	105	75.3	128	0			
Toluene	19.56	1	20	0	97.8	77.8	122	0			
Chlorobenzene	19.87	1	20	0	99.3	76.2	130	0			
1,1-Dichloroethene	18.38	1	20	0	91.9	70.2	119	0			
Trichloroethene (TCE)	18.2	1	20	0	91.0	76.9	130	0			

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

CLIENT: San Juan Refining
Work Order: 0409046
Project: Inj Well 3rd Qtr 2004

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID **lcs-6442** Batch ID: **6442** Test Code: **SW8270A** Units: **µg/L** Analysis Date **9/18/2004** Prep Date **9/7/2004**
Client ID: Run ID: **ELMO_040918A** SeqNo: **306378**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	60.94	10	100	0	60.9	44.6	87.9	0			
4-Chloro-3-methylphenol	126	20	200	0	63.0	46	92.2	0			
2-Chlorophenol	126.8	10	200	0	63.4	46.3	91.1	0			
2,4-Dinitrotoluene	73	10	100	0	73.0	53.2	94.9	0			
4-Nitrophenol	69.28	50	200	0	34.6	3.95	65.2	0			
Pentachlorophenol	116.6	50	200	0	58.3	21.6	105	0			
Phenol	80.96	10	200	0	40.5	26.3	53.8	0			
1,2,4-Trichlorobenzene	53.34	10	100	0	53.3	37.1	90.7	0			

Sample ID **lcsd-6442** Batch ID: **6442** Test Code: **SW8270A** Units: **µg/L** Analysis Date **9/18/2004** Prep Date **9/7/2004**
Client ID: Run ID: **ELMO_040918A** SeqNo: **306379**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	66.3	10	100	0	66.3	44.6	87.9	60.94	8.43	30.5	
4-Chloro-3-methylphenol	123.8	20	200	0	61.9	46	92.2	126	1.70	28.6	
2-Chlorophenol	122.4	10	200	0	61.2	46.3	91.1	126.8	3.55	107	
2,4-Dinitrotoluene	69.28	10	100	0	69.3	53.2	94.9	73	5.23	14.7	
4-Nitrophenol	72.64	50	200	0	36.3	3.95	65.2	69.28	4.74	36.3	
Pentachlorophenol	122.6	50	200	0	61.3	21.6	105	116.6	5.08	49	
Phenol	75.16	10	200	0	37.6	26.3	53.8	80.96	7.43	52.4	
1,2,4-Trichlorobenzene	61.66	10	100	0	61.7	37.1	90.7	53.34	14.5	36.4	

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Qualifiers: ND - Not Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; B - Analyte detected in the associated Method Blank

CLIENT: San Juan Refining
Work Order: 0409046
Project: Inj Well 3rd Qtr 2004

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID **lcs-6493** Batch ID: **6493** Test Code: **SW8270A** Units: **µg/L** Analysis Date **9/23/2004** Prep Date **9/16/2004**
Client ID: Run ID: **ELMO_040922A** SeqNo: **308221**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	69.28	10	100	0	69.3	44.6	87.9	0			
4-Chloro-3-methylphenol	141.5	20	200	0	70.8	46	92.2	0			
2-Chlorophenol	168.6	10	200	0	84.3	46.3	91.1	0			
1,4-Dichlorobenzene	71.36	10	100	0	71.4	37.8	91.3	0			
2,4-Dinitrotoluene	68	10	100	0	68.0	53.2	94.9	0			
N-Nitrosodi-n-propylamine	75.1	10	100	0	75.1	46.2	82.6	0			
Phenol	93.6	10	200	0	46.8	26.3	53.8	0			
Pyrene	89.64	15	100	0	89.6	53.8	94.5	0			
1,2,4-Trichlorobenzene	65.08	10	100	0	65.1	37.1	90.7	0			

Sample ID **lcsd-6493** Batch ID: **6493** Test Code: **SW8270A** Units: **µg/L** Analysis Date **9/23/2004** Prep Date **9/16/2004**
Client ID: Run ID: **ELMO_040922A** SeqNo: **308233**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	68.66	10	100	0	68.7	44.6	87.9	69.28	0.899	30.5	
4-Chloro-3-methylphenol	133.2	20	200	0	66.6	46	92.2	141.5	6.01	28.6	
2-Chlorophenol	157.8	10	200	0	78.9	46.3	91.1	168.6	6.63	107	
1,4-Dichlorobenzene	75.86	10	100	0	75.9	37.8	91.3	71.36	6.11	62.1	
2,4-Dinitrotoluene	65.52	10	100	0	65.5	53.2	94.9	68	3.71	14.7	
N-Nitrosodi-n-propylamine	69.14	10	100	0	69.1	46.2	82.6	75.1	8.26	30.3	
Phenol	86.82	10	200	0	43.4	26.3	53.8	93.6	7.52	52.4	
Pyrene	85.4	15	100	0	85.4	53.8	94.5	89.64	4.84	16.3	
1,2,4-Trichlorobenzene	62.56	10	100	0	62.6	37.1	90.7	65.08	3.95	36.4	

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Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: San Juan Refining
Work Order: 0409046
Project: Inj Well 3rd Qtr 2004

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID **LCS-6436**	Batch ID: **6436**	Test Code: **SW7470**	Units: **mg/L**	Analysis Date **9/7/2004**	Prep Date **9/7/2004**
Client ID:		Run ID: **MI-LA254_040907A**		SeqNo: **302915**	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.005726	0.0002	0.005	0.0001224	112	75.2	134	0			

Sample ID **LCSD-6439**	Batch ID: **6436**	Test Code: **SW7470**	Units: **mg/L**	Analysis Date **9/7/2004**	Prep Date **9/7/2004**
Client ID:		Run ID: **MI-LA254_040907A**		SeqNo: **302927**	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.005047	0.0002	0.005	0.0001224	98.5	75.2	134	0.005726	12.6	0	

Sample ID **LCS-6492**	Batch ID: **6492**	Test Code: **SW6010A**	Units: **mg/L**	Analysis Date **9/17/2004 2:55:08 PM**	Prep Date **9/16/2004**
Client ID:		Run ID: **ICP_040917A**		SeqNo: **306648**	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5026	0.02	0.5	0	101	80	120	0			
Barium	0.4711	0.02	0.5	0	94.2	80	120	0			
Cadmium	0.4858	0.002	0.5	0.001101	96.9	80	120	0			
Calcium	44.51	1	50	0	89.0	80	120	0			
Chromium	0.4789	0.006	0.5	0	95.8	80	120	0			
Lead	0.4833	0.005	0.5	0.003158	96.0	80	120	0			
Magnesium	46.73	1	50	0	93.5	80	120	0			
Potassium	48.02	1	50	0	96.0	80	120	0			
Selenium	0.4785	0.05	0.5	0	95.7	80	120	0			
Sodium	51.27	1	50	0	103	80	120	0			

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: San Juan Refining
Work Order: 0409046
Project: Inj Well 3rd Qtr 2004

QC SUMMARY REPORT
Laboratory Control Spike Duplicate

Sample ID **LCSD-6492** Batch ID: **6492** Test Code: **SW6010A** Units: **mg/L** Analysis Date **9/17/2004 2:57:19 PM** Prep Date **9/16/2004**
Client ID: Run ID: **ICP_040917A** SeqNo: **306649**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.4921	0.02	0.5	0	98.4	80	120	0.5026	2.13	20	
Barium	0.4702	0.02	0.5	0	94.0	80	120	0.4711	0.206	20	
Cadmium	0.4836	0.002	0.5	0.001101	96.5	80	120	0.4858	0.465	20	
Calcium	45.37	1	50	0	90.7	80	120	44.51	1.91	20	
Chromium	0.4754	0.006	0.5	0	95.1	80	120	0.4789	0.732	20	
Lead	0.4817	0.005	0.5	0.003158	95.7	80	120	0.4833	0.323	20	
Magnesium	47.56	1	50	0	95.1	80	120	46.73	1.76	20	
Potassium	48.69	1	50	0	97.4	80	120	48.02	1.38	20	
Selenium	0.4981	0.05	0.5	0	99.6	80	120	0.4785	4.01	20	
Sodium	51.74	1	50	0	103	80	120	51.27	0.904	20	

Sample ID **LCS-6492** Batch ID: **6492** Test Code: **SW6010A** Units: **mg/L** Analysis Date **9/20/2004 10:46:14 AM** Prep Date **9/16/2004**
Client ID: Run ID: **ICP_040920A** SeqNo: **306667**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5658	0.02	0.5	0	113	80	120	0			
Barium	0.5299	0.02	0.5	0	106	80	120	0			
Cadmium	0.5455	0.002	0.5	0	109	80	120	0			
Calcium	44.8	1	50	0	89.6	80	120	0			
Chromium	0.533	0.006	0.5	0	107	80	120	0			
Lead	0.5396	0.005	0.5	0	108	80	120	0			
Magnesium	47.02	1	50	0	94.0	80	120	0			
Potassium	47.87	1	50	0	95.7	80	120	0			
Selenium	0.5398	0.05	0.5	0	108	80	120	0			
Sodium	51.29	1	50	0	103	80	120	0			

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CLIENT: San Juan Refining
Work Order: 0409046
Project: Inj Well 3rd Qtr 2004

QC SUMMARY REPORT
Laboratory Control Spike Duplicate

Sample ID **LCSD-6492** Batch ID: **6492** Test Code: **SW6010A** Units: **mg/L** Analysis Date **9/20/2004 10:49:14 AM** Prep Date **9/16/2004**
Client ID: Run ID: **ICP_040920A** SeqNo: **306668**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.568	0.02	0.5	0	114	80	120	0.5658	0.394	20	
Barium	0.5279	0.02	0.5	0	106	80	120	0.5299	0.391	20	
Cadmium	0.5408	0.002	0.5	0	108	80	120	0.5455	0.862	20	
Calcium	45.48	1	50	0	91.0	80	120	44.8	1.51	20	
Chromium	0.5294	0.006	0.5	0	106	80	120	0.533	0.673	20	
Lead	0.5329	0.005	0.5	0	107	80	120	0.5396	1.26	20	
Magnesium	47.89	1	50	0	95.8	80	120	47.02	1.85	20	
Potassium	48.94	1	50	0	97.9	80	120	47.87	2.21	20	
Selenium	0.5307	0.05	0.5	0	106	80	120	0.5398	1.69	20	
Sodium	52.2	1	50	0	104	80	120	51.29	1.76	20	

Sample ID **LCS-6492** Batch ID: **6492** Test Code: **SW6010A** Units: **mg/L** Analysis Date **9/20/2004 12:34:15 PM** Prep Date **9/16/2004**
Client ID: Run ID: **ICP_040920A** SeqNo: **306683**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.5907	0.005	0.5	0	118	80	120	0			

Sample ID **LCSD-6492** Batch ID: **6492** Test Code: **SW6010A** Units: **mg/L** Analysis Date **9/20/2004 12:36:33 PM** Prep Date **9/16/2004**
Client ID: Run ID: **ICP_040920A** SeqNo: **306684**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.5705	0.005	0.5	0	114	80	120	0.5907	3.48	20	

Sample ID **LCS-6492** Batch ID: **6492** Test Code: **SW6010A** Units: **mg/L** Analysis Date **9/20/2004 8:07:23 AM** Prep Date **9/16/2004**
Client ID: Run ID: **ICP_040920E** SeqNo: **307232**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.498	0.005	0.5	0	99.6	80	120	0			

Qualifiers:
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B - Analyte detected in the associated Method Blank

CLIENT: San Juan Refining
Work Order: 0409046
Project: Inj Well 3rd Qtr 2004

QC SUMMARY REPORT
Laboratory Control Spike Duplicate

Sample ID **LCSD-6492** Batch ID: **6492** Test Code: **SW6010A** Units: **mg/L** Analysis Date **9/20/2004 8:09:28 AM** Prep Date **9/16/2004**

Client ID: Run ID: **ICP_040920E** SeqNo: **307233**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.4968	0.005	0.5	0	99.4	80	120	0.498	0.251	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
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R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name SJR | Date and Time Received: 9/3/2004

Work Order Number 0409046 | Received by AT

Checklist completed by _____ Signature _____ Date 9/3/04

Matrix | Carrier name UPS

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☑	N/A ☐	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☑	No ☐	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	

Container/Temp Blank temperature? **16°** *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

Accreditation Applied:
NELAC ☐ USACE ☐
Other: _____

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: San Juan Refining
Address: #50 Rd 4990 Bloomfield, NM 87413
Phone #: 505-632-4161
Fax #: 505-632-3911

Project Name: Injection Well 3rd Qtr 2004
Project #:
Project Manager:
Sampler: Cindy Hurtado
Sample Temperature: 16

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative HgCl2	Preservative HNO3	Preservative	HEAL No.
9-02-04	920Am	H20	Injection Well 3rd	3-VOA	X			04090461
				1-liter			Amber	
				1-500		X		
				1 liter				
				1-250			NaOH	
				1-250			ZN Acetate	
			Trip Blank					-2

ANALYSIS REQUEST

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals, Na, K, Mg, Ca	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	EC, pH, SAR, Alk, Cl	Ignitability, Corrosivity	Reactivity	Sulfide	Air Bubbles or Headspace (Y or N)
										X						
											X					
							X									
												X	X			
														X		
															X	

Date: 9-02-04 Time: 10Am Relinquished By: (Signature) Cindy Hurtado
Received By: (Signature) 9/3/04 Time 1602

Date: Time: Relinquished By: (Signature)
Received By: (Signature)

Remarks: