

Adam G. Rankin agrankin@hollandhart.com

January 4, 2013

VIA HAND DELIVERY

Jami Bailey, Director Oil Conservation Division New Mexico Department of Energy, Minerals and Natural Resources 1220 South Saint Francis Drive Santa Fe, New Mexico 87505

Case 14835

Re: Case No. 14835: Application of Coulthurst Management & Investment, LLC, to Re-Open Case No. 14835 to Amend Order No. R-2975-A.

Dear Ms. Bailey:

Enclosed in triplicate is the above-referenced application of Coulthurst Management & Investment, LLC ("Coulthurst") to re-open Case No. 14835 for the purpose of amending Order No. R-2975-A, to approve an injection interval that is shallower than originally authorized. Included with this Application is a copy of the original C-108 application for reference marked Exhibit A, and a proposed legal advertisement. Coulthurst requests that this matter be placed on the docket for the February 7, 2013, examiner hearing.

Very truly yours,

Adam G. Rankin Attorney for Coulthurst Management & Investment, LLC

Enclosures

cc: Paul Thompson, Walsh Eng'g

Holland & Hart LLP

Phone [505] 988-4421 Fax [505] 983-6043 www.hollandhart.com

110 North Guadalupe Suite 1 Santa Fe, NM 87501 Mailing Address P.O. Box 2208 Santa Fe, NM 87504-2208

Aspen Billings Boise Boulder Cheyenne Colorado Springs Denver Denver Tech Center Jackson Hole Salt Lake City Santa Fe Washington, D.C. 🙃

CASE NO. 14835:

Application of Coulthurst Management & Investment, LLC, to Re-Open Case No. 14835 to Amend Order No. R-2975-A. Applicant in the above-styled cause seeks authorization to inject produced water in the Menefee formation, South San Luis-Mesaverde Pool, through the Erin No. 2 well (API 30-043-20862), located 990 feet from the North line and 2310 from the West line (Unit C) of Section 33, Township 18 North, Range 3 West, N.M.P.M., Sandoval County, New Mexico. Applicant seeks to amend Order No. R-2975-A for authorization to inject into additional zones within the Menefee at approximately 438-453 feet and 456-461 feet. Applicant proposed to inject at a pressure of approximately 87 pounds per square inch. The proposed project area is approximately 520 acres in size, consisting of the W/2, N/2 NE/4, N/2 SE/4, SE/4 SE/4 of said Section. The Erin No. 2 well and proposed project area are located approximately 6 miles southeast of Torreon, New Mexico.

🖣 ENE	TE OF NEW MEXICOOil Conservation DivisionFORM C-108RGY, MINERALS AND NATURAL1220 South St. Francis Dr.Revised June 10, 2003OURCES DEPARTMENTSanta Fe, New Mexico 87505CMAL 14835CMAL 100 FOR AUTHORIZATION TO INJECT
I.	PURPOSE: Secondary Recovery X Pressure Maintenance Disposal Storage Application qualifies for administrative approval? Yes X No
II.	OPERATOR:Coulthurst Management & Inv., LLC
	ADDRESS:5319 Broadway Terrace #303, Oakland, CA 94618
	CONTACT PARTY: Paul Thompson, c/o Walsh Engineering, 7415 E. Main St., Farmington, NM 87402 PHONE: (505) 327-4892
III.	WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.
IV.	Is this an expansion of an existing project? Yes XNo If yes, give the Division order number authorizing the project:
V.	Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
VI.	Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
VII.	Attach data on the proposed operation, including:
	 Proposed average and maximum daily rate and volume of fluids to be injected; Whether the system is open or closed; Proposed average and maximum injection pressure; Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and, If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
*VIII.	Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.
IX.	Describe the proposed stimulation program, if any.
*X.	Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).
*XI.	Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
XII.	Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.
XIII.	Applicants must complete the "Proof of Notice" section on the reverse side of this form.
XIV.	Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
	NAME:Paul C. Thompson, P.E TITLE: _Agent
	NAME:Paul C. Thompson, P.E TITLE: _Agent SIGNATURE: DATE: December 18, 2012
*	E-MAIL ADDRESS:paul@walsheng.net

III. WELL DATA

- A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:
 - (1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.
 - (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
 - (3) A description of the tubing to be used including its size, lining material, and setting depth.

(4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District Offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

- B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.
 - (1) The name of the injection formation and, if applicable, the field or pool name.
 - (2) The injection interval and whether it is perforated or open-hole.
 - (3) State if the well was drilled for injection or, if not, the original purpose of the well.
 - (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
 - (5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

- (1) The name, address, phone number, and contact party for the applicant;
- (2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;
- (3) The formation name and depth with expected maximum injection rates and pressures; and,

(4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

Side 2

	NJECTION WELL DATA SHEET
WELL LOCATION:990' FNL & 2310 FWL, Unit C, Se FOOTAGE LOCATION	
WELLBORE SCHEMATIC	WELL CONSTRUCTION DATA
	Hole Size:10-5/8" Casing Size:8-5/8"
10 58 HOLE	Cemented with:35sx. or ft ³
1 8% e	Bit Top of Cement:Surface Method Determined:Visual
	Intermediate Casing
	Hole Size: Casing Size:
	Cemented with: sx. or ft ³
	Top of Cement: Method Determined:
PACKER 4	Production Casing
6 3/4" HOLE 438 453 456 M	ENEFEE Hole Size:6-3/4" Casing Size:4-1/2", 9.5#
	PERFS Cemented with:120sx. or ft ³
546	Top of Cement:Surface Method Determined:Visual
562	Total Depth:647'
	Injection Interval
XXXXX	# <i>e</i> 647 438'feet to 580' perforated

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INJECTION WELL DATA SHEET

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Tubing Size:2-3/8"	_Lining Material:None
Type of Packer:Downhole Tools Model AD-1	
Packer Setting Depth:Approx. 400'	·
Other Type of Tubing/Casing Seal (if applicable	e):
	tional Data
1. Is this a new well drilled for injection?	YesXNo
If no, for what purpose was the well origina	ally drilled?Oil Production
·	
2. Name of the Injection Formation:Menef	ee
3. Name of Field or Pool (if applicable):S	outh San Luis Mesa Verde Oil Pool
4. Has the well ever been perforated in any oth intervals and give plugging detail, i.e. sacks	her zone(s)? List all such perforated s of cement or plug(s) usedNo
	zones underlying or overlying the proposed
	· · · · · · · · · · · · · · · · · · ·

Coulthurst Management Investments, Inc., LLC

Erin #2 Injection Well

C 108 Data Sheet

V. See Attached Map

VI. See Attached Tabulation Sheet

VII. Operation Data

- 1. A. Average Daily Injection Rate = 60 bbls
 - Maximum Daily Injection Rate = 100 bbls
 - B. Proposed Volume 150,000 bbls
- 2. The system is closed
- 3. Proposed Pressures
 - A. Average and maximum injection pressures will be 87 psi until a step/rate test is completed.
- 4. Source of Injection Fluid
 - A. Erin #9 (B Sec. 33, T18N, R3W) and the Erin #3 (F Sec. 33, T18N, R3W). Both wells are Menefee completions so the waters should be compatible.
- 5. Not Applicable

VIII. Geology

The reservoir is a series of sand bars or near shore marine deposition intermingled with shales all of which seem to have been affected by stream bed arrangement in the immediate area. There are no known domestic water wells within on mile of the proposed injection well (Office of the State Engineer). All of the proposed injection water, and the in-situ water in the Erin #2, has been tested at less than 10,000 TDS.

IX. No stimulation in the Erin #2 is anticipated.

- X. Well logs are on file with the NMOCD.
- XI. Analysis of the San Luis Water Well #1 is attached
- XII. Not Applicable
- XIII. See attached certified mail receipts.

STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

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Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, New Mexico 87505

APPLICATION FOR AUTHORIZATION TO INJECT

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IX.	Describe the proposed stimulation program, if any.
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*XI.	Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
XII.	Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.
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	NAME:Paul C. Thompson, P.E TITLE: _Agent
	NAME:Paul C. Thompson, P.E
*	E-MAIL ADDRESS:paul@walsheng.net

EXHIBIT A

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

Side 2

III. WELL DATA

- A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:
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 - (1) The name of the injection formation and, if applicable, the field or pool name.
 - (2) The injection interval and whether it is perforated or open-hole.
 - (3) State if the well was drilled for injection or, if not, the original purpose of the well.
 - (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
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Side 1	INJEC	TION WELL DATA SHEET			
OPERATOR:Co	ulthurst Management & Investments, Inc.,	LLC			
	MBER:Erin #2				
WELL LOCATION: _	_990' FNL & 2310' FWL, Unit C, Section FOOTAGE LOCATION	1 33, T18N, R3W UNIT LETTER	SECTION	TOWNSHIP	RANGE
	LBORE SCHEMATIC			DISTRUCTION DATA	
10 5/ "HOLE	8 8 381	Hole Size:10 – 5/8"_ Cemented with:35 Top of Cement:Surfa	sx.	<i>or</i> Method Determined:	ft ³
6 3/4" HOLE		Hole Size: Cemented with: Top of Cement:	SX.	or Method Determined:	ft ³
	PACKER 500 +/-	Hole Size:6-3/4" Cemented with:120 _ Top of Cement:Surface Total Depth:647'	SX.	or Method Determined:	ft ³
	4 ¹ / ₂ , 9.5 [#] @ 647	525'(Perf		to585' perforate	:d

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INJECTION WELL DATA SHEET

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bing Siz	ze:2-3/8"Lining Material:Plastic		
Тур	De of Packer:Arrow Set 1 with on-off tool		
Pac	ker Setting Depth:Approx. 500'		
Oth	er Type of Tubing/Casing Seal (if applicable):	_	
	Additional Data		
1.	Is this a new well drilled for injection?YesXNo		
	If no, for what purpose was the well originally drilled?Oil production	-	
2.	Name of the Injection Formation:Menefee	-	
3.	Name of Field or Pool (if applicable):South San Luis – Mesa Verde Oil Pool		
4.	Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) usedNo		
5.	Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area:None	-	
		-	
	· · · ·	-	
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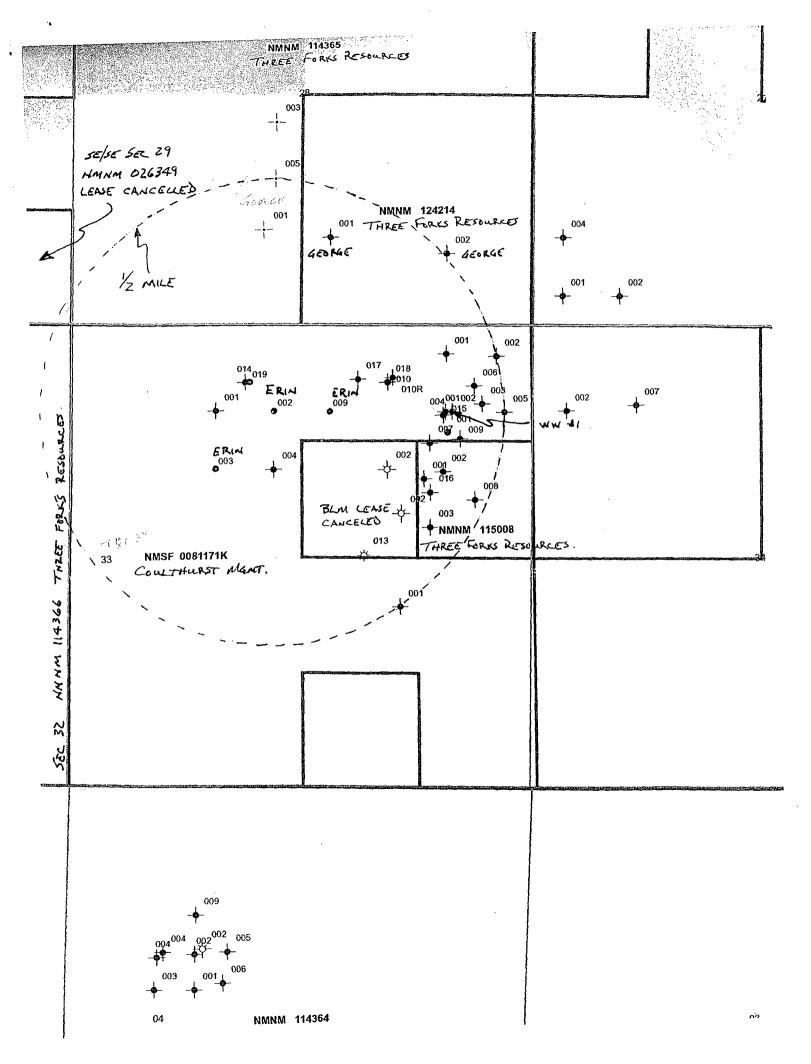
Well Tabulation Sheet

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Wells Within One-Half Mile of Erin #2

Unit	Section Operator	Location Well N - S E - W	Spud Date GL Elev.	Casing Surface Production	T.D.	Status
O N	28 Coulthurst Mgmt & Inv., Ind 28 Three Forks Resources	c Jenny #1 990/S 2310/E George #1 1069/S 2182/V		7 8-5/8" @ ? 4-1/2" @ 614' 2 9-5/8" @ 127'4-1/2" @ 860'	763' 865'	P&A Plug with 54 cu.ft. from TD to surface. Producing
A A A	33 Noel Reynolds 33 Entrada Corp. 33 Coulthurst Mgmt & Inv., Ind	Ann #1 326/N 1086/E Federal #1-33 990/N 990/E Water Well #1 1224/N 968/E	11/3/1957 6460) 2-7/8" @ 620') 16" @30' 7 7" @ ?? 4-1/2" @ 800'	1010' 880' 1001'	P&A Plug wilh 28 sx from TD to surface. P&A Btm from 780- 880'. Int plug from 250 - 450'. Surface plug 0 - 10'. Convert to a Water Well
B B	33 Coulthurst Mgmt & Inv., Inc33 Rader Oil Co.	c Erin #9 990/N 2310/E Ann #10R 605/N 1592/E		4 8-5/8" @ 120'4-1/2" @ 1006' 3	1010' 650'	Producing P&A Plug with 30 sx from 550 - 650'. Plug with 30 sx from 0 to 100'.
с с	33 Coulthurst Mgmt & Inv., Inc33 Noel Reynolds	Erin #1 990/N 1650/M Ann #19 660/N 2030/M		3 8-5/8" @ 40' 4-1/2" @ 736' 9 7" @ 34' 4-1/2" @ 604'	750' 605'	P&APlug with 50 sx from 736' to surface. Top off with 15 sx.P&APlug with 16 sk plug from 100' to surface.
F F	33 Coulthurst Mgmt & Inv., Inc 33 Coulthurst Mgmt & Inv., Inc			7 8-5/8" @ 78' 4-1/2" @ 708' 3 8-5/8" @ 80' 4-1/2" @ 660'	720' 660'	P&A Plug with 57 sx Cl "B" from TD to surface. Producing
G	33 J.I. Harvey	Federal #2 1650/N 1650/E	9/29/1959 6590	0 6-1/2" @ 30'	820'	P&A Bottom plug from 720' to 820'. Plug from 520 to 570'. Plug from 0 to 50'



Coulthurst Management Investments, Inc., LLC

Erin #2 Injection Well

C 108 Data Sheet

V. See Attached Map

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VI. See Attached Tabulation Sheet

VII. Operation Data

- 1. A. Average Daily Injection Rate = 60 bbls
 - Maximum Daily Injection Rate = 100 bbls
 - B. Proposed Volume 150,000 bbls
- 2. The system is closed
- 3. Proposed Pressures
 - A. Average and maximum injection pressures will be 105 psi until a step/rate test is completed.
- 4. Source of Injection Fluid
 - A. Erin #9 (B Sec. 33, T18N, R3W) and the Erin #3 (F Sec. 33, T18N, R3W). Both wells are Menefee completions so the waters should be compatible.
- 5. Not Applicable

VIII. Geology

The reservoir is a series of sand bars or near shore marine deposition intermingled with shales all of which seem to have been affected by stream bed arrangement in the immediate area. There are no known domestic water wells within on mile of the proposed injection well (Office of the State Engineer). All of the proposed injection water, and the in-situ water in the Erin #2, has been tested at less than 10,000 TDS.

- IX. No stimulation in the Erin #2 is anticipated.
- X. Well logs are on file with the NMOCD.
- XI. Analysis of the San Luis Water Well #1 is attached
- XII. Not Applicable
- XIII. See attached certified mail receipts.



April 3, 2012

CERTIFIED MAIL

Three Forks Resources, LLC 1775 Sherman St., Suite #1675 Denver, CO 80203

Re: Application for Pressure Maintenance Project Erin #2 900' FNL & 2310' FWL, Section 33, T18N, R3W Sandoval Co., NM

Dear Lease Operator,

Coulthurst Management and Investments, Inc., LLC has applied to the New Mexico Oil and Gas Conservation Division (NMOCD) for approval to inject produced water from offset producing Menefee wells into the Menefee interval in the Erin #2 well, for pressure maintenance purposes. You are being notified of this application pursuant to NMOCD rules.

The Erin #2 well, described above, is perforated in the South San Luis Menefee pool from 525' to 580'. The maximum expected injection pressure is 105 psi until a step – rate test can be completed and the maximum anticipated injection rate is 100 BPD.

If you have no objections to this application then no action is required on your part. If you would like to file an objection or request a hearing, please notify the NMOCD at 1220 South St. Francis Dr., Santa Fe, NM 87505 within 15 days of receipt of this notice. If you have any questions or need additional information, please call or write me at the letterhead address.

Sincerely,

Paul C. Thompson, P.E.



EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

Coulthurst Mgmt	Project #:	06027-0002
NENW, 33, 18N, 3W Sandoval Co	Date Reported:	07-14-11
58911	Date Sampled:	
12164	Date Received:	07-12-11
Aqueous	Date Extracted:	07-13-11
Cool	Date Analyzed:	07-13-11
Intact	Analysis Requested:	8015 TPH
	NENW, 33, 18N, 3W Sandoval Co 58911 12164 Aqueous Cool	NENW, 33, 18N, 3W Sandoval CoDate Reported:58911Date Sampled:12164Date Received:AqueousDate Extracted:CoolDate Analyzed:

Parameter	Concentration (mg/L)	Det. Limit (mg/L)
Gasoline Range (C5 - C10)	0.5	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	0.5	0.1

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

	/	
Comments:	Erin #2)
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Arralyst		
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Review

5796 US Highway 64, Farmington, NM 87401



EPA Method 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

Quality Assurance Report

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Client:	QA/QC		Project #:		N/A
Sample ID:	0713TBLK QA/QC	>	Date Reported:		07-14-11
Laboratory Number:	58909		Date Sampled:		N/A
Sample Matrix:	Methylene Chloride		Date Received:		N/A
Preservative:	N/A		Date Analyzed:		07-13-11
Condition:	N/A		Analysis Request	ed:	TPH
	יין רואל איין איין איין איין איין איין איין אי	an a	an a		and a second
		I-Cal RF	C-Cal RF:	% Difference	والمحاجبين بساليكي ليخلفه واستطعتهما وا
Gasoline Range C5 - C10		1.0000E+000	9.9800E-001	0.20%	0 - 15%
Diesel Range C10 - C28		9.9372E-001	9.9173E-001	0.20%	0 - 15%
Blank Conc. (mg/L)	Constant C	concentration		Detection Lin	itti
Gasoline Range C5 - C10		3.7		0.2	
Diesel Range C10 - C28		7.9		0.1	
					1.1
Duplicate Conc. (mg/L)	Sample			Accept, Range	24
Gasoline Range C5 - C10	0.3	0.3	0.0%	0 - 30%	
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%	
	Sample	Spike Added	Spike Result	% Recovery	Accept Rang
Snike Conc. (mail 1		Opine muueu	Opine neout	70 116007619	- nocept many
Spike Conc. (mg/L) Gasoline Range C5 - C10	0.3	25.0	24.8	98.0%	75 - 125%

ND - Parameter not detected at the stated detection limit.

References:

Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments:

QA/QC for Sample 58909-58912

Analy

Review

5796 US Highway 64, Farmington, NM 87401



EPA METHOD 8021 **AROMATIC VOLATILE ORGANICS**

Client:	Coulthurst Mgmt	Project #:	06027-0002
Sample ID:	NENW 33, 18N, 3W Sandoval Co	Date Reported:	07-15-11
Chain of Custody:	12164	Date Sampled:	
Laboratory Number:	58911	Date Received:	07-12-11
Sample Matrix:	Aqueous	Date Analyzed:	07-14-11
Preservative:	Cool	Analysis Requested:	BTEX
Condition:	Intact		

			Det.
	Concentration	Dilution	Limit
Parameter	(ug/L)	Factor	(ug/L)
Benzene	7.2	1	0.2
Toluene	24.0	1	0.2
Ethylbenzene	37.1	1	0.2
p,m-Xylene	159	1	0.2
o-Xylene	74.7	1	0.1

Total BTEX

Q A

302

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries: Parameter	Percent Recovery
fluorobenzene	88.0 %
1,4-difluorobenzene	94.0 %
4-bromochlorobenzene	104 %

Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, References: December 1996.

> Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photolonization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments:

Erin #2

Review



EPA METHOD 8021 AROMATIC VOLATILE ORGANICS QUALITY ASSURANCE REPORT

Client: Sample ID: Laboratory Number: Sample Matrix: Preservative: Condition:	N/A 0714BBLK QA/QC 58909 Aqueous N/A N/A		Project #: Date Reported: Date Sampled: Date Received: Date Analyzed: Analysis:		N/A 07-15-11 N/A N/A 07-14-11 BTEX
					و دور و برو ا برو ا برو الرو الرو الرو الرو الرو الرو الرو ال
Calibration and Detection Limits (ug/L)	I-Cal RF:	C-Cal RF: Accept. Ran	%Diff. ge 0 - 15%	Blank Conc	Detect. Limit
Benzene	2.9392E+006	2.9480E+006	0.3%	ND	0.2
Toluene	2.9994E+006	3.0084E+006	0.3%	ND	0.2
Ethylbenzene	2.6453E+008	2.6532E+006	0.3%	ND	0.2
p,m-Xylene	7.0148E+006	7.0359E+006	0.3%	ND	0.2
o-Xylene	2.4121E+006	2.4193E+006	0.3%	ND	0.1
Duplicate Conc. (ug/L)	Sample	Duplicate	%Diff.	Accept Limit	- 1971
Benzene	6.9	7.1	3.7%	0 - 30%	
Toluene	5.2	5.7	9.4%	0 - 30%	
Ethylbenzene	30.2	28.9	4.1%	0 ⊦ 30%	
p,m-Xylene	87.3	83.9	3.9%	0 - 30%	
o-Xylene	55.8	52.7	5.6%	0 - 30%	
Spike Conc. (ug/L)	Sample	Amount Sniked	Spiked Sample	% Recovery	Accept Limits
	Comple	Anioan Opiceo	- Opiked Gample	76 INECOVERY	Accept Littles
Benzene	6.9	- 50.0	59.9	105%	39 - 150
Toluene	5.2	50.0	53.7	97.2%	46 - 148
Ethylbenzene	30.2	50.0		107%	32 - 160
p,m-Xylene	87.3	100		74.8%	46 - 148
o-Xylene	55.8	50.0		98.1%	46 - 148
	••••	30.0	104	001170	10 110

ND - Parameter not detected at the stated detection limit.

Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-848, USEPA, December 1996. Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using

Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments: QA/QC for Samples 58909-58912

Review

References:



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Chloride

Client: Sample ID:	Coulthurst Mgmt NENW 33, 18N, 3W Sandoval Co	Project #: Date Reported:	06027-0002 07/13/11
Lab ID#:	58911	Date Sampled:	07/13/11
Sample Matrix:	Aqueous	Date Received:	07/12/11
Preservative:	Cool	Date Analyzed:	07/13/11
Condition:	Intact	Chain of Custody:	12164

Parameter	Concentration (mg/L)	

Total Chloride

10

Reference: U.S.E.P.A., 4500B, "Methods for Chemical Analysis of Water and Wastes", 1983. Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments:

Erin #2

Ana

Review

5796 US Highway 64, Farmington, NM 87401



Water Analysis

Paramet	er Result		Units
	Analytica		
Condition:	Intact	Chain of Custody:	12164
Preservative:	Cool	Date Analyzed:	07/13/11
Sample Matrix:	Aqueous	Date Received:	07/12/11
Laboratory Number:	58911	Date Sampled:	
Sample ID:	NENW 33, 18N, 3W Sandoval Co	Date Reported:	07/15/11
Client:	Coulthurst Mgmt	Project #:	06027-0002

Total Dissolved Solids @ 180C

1,370

mg/L

U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983. Reference: Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: Erin #2

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Review

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CHAIN OF CUSTODY RECORD

12164

Client: Coulthurst		F	Project Name / 1		:	· <u>·</u> ·····								ANAL	YSIS	/ PAR	AME	TERS					
Couthurst		M	Erin Sampler Name:	- 2	<u>~</u>					<u>}</u>		<u> </u>	1	1	T		[;	<u>k</u>			F1	
				م (Mont	21-			3015)	802	8260	S					}	}					
Client Phone No.:		C	lient No.:		-000Z	l'a			TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion		TCLP with H/P		TPH (418.1)	RIDE	5			Sample Cool	Sample Intact
Sample No./ Identification	Sample Date	Sample Time	Lab No.		ample Matrix	No./Volume of Containers	rigoiz	ervativ HG	TPH (A	BTEX	voc (r	RCRA	Cation	RCI	TCLP	PAH) HGT	CHLORIDE	F	•		Sampl	
NENW 33, 18 Sandoval (N,3W		58911	Soil Solid	Sludge Aqueous	2-100	CS CS		X	X		[X	\times	-		Y	X
Sandoval (é			Soil Solid	Sludge Aqueous																		
				Soil Solid	Sludge Aqueous																		
				Soil Solid	Sludge Aqueous																		
				Soil Solid	Sludge Aqueous																		
				Soil Solid	Sludge Aqueous																		
				Soil Solid	Sludge Aqueous																		
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				Soil Solid	Sludge Aqueous					[
				Soil Solid	Sludge Aqueous																		
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Relinquished by: (Signa	ature) C	9				1	R	eceiv	ed by:	(Sign	ature)	0								-1	110		
Relinquished by: (Signa	ature)						R	èceiv	ed by:	(Sign	ature)									-			
			5796 U	S Highwa	y 64 • Farmin		aly	tico	l La	bord	atory	/	h-inc c							L		L	



EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

Client: Sample ID:	Coulthurst Mgmt NMSF081171K SENW33, 18N,,3W	Project #: / Date Reported:	06027-0002 07-14-11
Laboratory Number:	58909	Date Sampled:	
Chain of Custody No:	12162	Date Received:	07-12-11
Sample Matrix:	Aqueous	Date Extracted:	07-13-11
Preservative:	Cool	Date Analyzed:	07-13-11
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/L)	Det. Limit (mg/L)
Gasoline Range (C5 - C10)	0.3	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	0.3	0.1

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Erin #3 Comments Н Analyst

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5796 US Highway 64, Farmington, NM 87401

EPA Method 8015 Modified Nonhalogenated Volatile Organics **Total Petroleum Hydrocarbons**

Quality Assurance Report

•					
Client:	QA/QC		Project #:		N/A
Sample ID:	0713TBLK QA/C	C	Date Reported:		07-14-11
Laboratory Number:	58909		Date Sampled:		N/A
Sample Matrix:	Methylene Chloride	e	Date Received:		N/A
Preservative:	N/A		Date Analyzed:		07-13-11
Condition:	N/A		Analysis Requeste	ed:	ТРН
		I-Cal RF	CCCaLREAM	% Difference	Accept/ Range
Gasoline Range C5 - C10		1.0000E+000	9.9800E-001	0.20%	0 - 15%
Diesel Range C10 - C28		9.9372E-001	9.9173E-001	0.20%	0 - 15%
Blank Conc. (mg/L)		Concentration		Detection Lin	liti
Gasoline Range C5 - C10		3.7		0.2	
Diesel Range C10 - C28		7.9		0.1	
Duplicate Conc. (mg/L)	Sample	Duplicate	% Difference	Accept Rang	ē
Gasoline Range C5 - C10	0.3	0.3	0.0%	0 - 30%	192.J
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%	
•					
Spike Conc. (mg/L)	Sample	Spike Added	Spike Result	% Recovery	Accept Range
Constine Banna CE C10	0.3	25.0	24.8	98.0%	75 - 125%
Gasoline Range C5 - C10	0.0	2010			

ND - Parameter not detected at the stated detection limit.

envirotech Analytical Laboratory

References:

Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments:

17 Analyst

Revie

5796 US Highway 64, Farmington, NM 87401

Ph (505) 632-0615 Fr (800) 362-1879 Fx (505) 632-1865 lab@envirotech-inc.com envirotech-inc.com

QA/QC for Sample 58909-58912



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EPA METHOD 8021 **AROMATIC VOLATILE ORGANICS**

Client: Sample ID: Chain of Custody:	Coulthurst Mgmt NMSF 081171K SENW33, 18N,₂3W 12162	Project #: Date Reported: Date Sampled:	06027-0002 07-15-11
Laboratory Number:	58909	Date Received:	07-12-11
Sample Matrix:	Aqueous	Date Analyzed:	07-14-11
Preservative:	Cool	Analysis Requested:	BTEX
Condition:	Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Lenge and the second		······································	
Benzene	6.9	1	0.2
Toluene	5.2	1	0.2
Ethylbenzene	30.2	1	0.2
p,m-Xylene	87.3	1	0.2
o-Xylene	55.8	1	0.1

Total BTEX

185

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries: Parameter	Percent Recovery
fluorobenzene	90.3 %
1,4-difluorobenzene	94.3 %
4-bromochlorobenzene	94.5 %

Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, References: December 1996.

> Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments:

Erin #3

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Analyst



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EPA METHOD 8021 AROMATIC VOLATILE ORGANICS QUALITY ASSURANCE REPORT

Client:	N/A	P	roject#:		N/A
Sample ID:	0714BBLK QA/QC	; [ate Reported:		07-15-11
Laboratory Number:	58909	C	ate Sampled:		N/A
Sample Matrix:	Aqueous		ate Received:		N/A
Preservative:	N/A	C	ate Analyzed:		07-14-11
Condition:	N/A	A	malysis:		BTEX
Calibration and	is heal RF a	C-Cal RF	%Diff	Blank	Detect.
Detection Limits (ug/L)		Accept: Range	0 - 15%	Concision	Limt -
Benzene	2.9392E+006	2.9480E+006	0.3%	ND	0.2
Toluene	2.9994E+006	3.0084E+006	0.3%	ND	0.2
Ethylbenzene	2.6453E+006	2.6532E+006	0.3%	ND	0.2
p,m-Xylene	7.0148E+006	7.0359E+006	. 0.3%	ND	0.2
o-Xylena	2.4121E+006	2.4193E+006	0.3%	ND	0.1
Duplicate Conc. (ug/L)	na manganan mananan na anga sa kana sa na manganan anganan angan angan angan angan angan ang sa sa sa	Duplicale	3.7%	la nafari . Iya Zatish filin aki (), i goʻ .	
Duplicate Conc. (ug/L) Benzene Toluene Ethylbenzene p.m-Xylene o-Xylene	6.9 5.2 30.2 87.3 55.8	7.1 5.7 28.9 83.9 52.7	3.7% 9.4% 4.1% 3.9% 5.6%	Accept Limit, 0 - 30% 0 - 30% 0 - 30% 0 - 30% 0 - 30%	
Benzene Toluene Ethylbenzene p.m-Xylene o-Xylene Spike Conc; (ug/L) Benzene	6.9 5.2 30.2 87.3 55.8 Sample 6.9	7.1 5.7 28.9 83.9 52.7 Amount Spiked	3.7% 9.4% 4.1% 3.9% 5.6% Spiked Sample*	0 - 30% 0 - 30% 0 - 30% 0 - 30% 0 - 30% % Recovery:	Accept Limi 39 - 150
Benzene Toluene Ethylbenzene p.m-Xylene o-Xylene Spike Conc; (ug/L) Benzene Toluene	6.9 5.2 30.2 87.3 55.8 Sample 6.9 5.2	7.1 5.7 28.9 83.9 52.7 Amount Spiked 50.0 50.0	3.7% 9.4% 4.1% 3.9% 5.6% Spiked Sample 59.9 53.7	0 - 30% 0 - 30% 0 - 30% 0 - 30% 0 - 30% % Recovery 105% 97.2%	39 - 150 46 - 148
Benzene Toluene Ethylbenzene p.m-Xylene o-Xylene Spike Conc: (ug/L) Benzene Toluene Ethylbenzene	6.9 5.2 30.2 87.3 55.8 Sample 6.9 5.2 30.2	7.1 5.7 28.9 83.9 52.7 Amount Spiked 50.0 50.0 50.0	3.7% 9.4% 4.1% 3.9% 5.6% Spiked Sample* 59.9 53.7 85.6	0 - 30% 0 - 30% 0 - 30% 0 - 30% 0 - 30% % Recovery: 105% 97.2% 107%	39 - 150 46 - 148 32 - 160
Benzene Toluene Ethylbenzene p.m-Xylene o-Xylene Spike Conc; (ug/L) Benzene Toluene	6.9 5.2 30.2 87.3 55.8 Sample 6.9 5.2	7.1 5.7 28.9 83.9 52.7 Amount Spiked 50.0 50.0	3.7% 9.4% 4.1% 3.9% 5.6% Spiked Sample 59.9 53.7	0 - 30% 0 - 30% 0 - 30% 0 - 30% 0 - 30% % Recovery 105% 97.2%	39 - 150 46 - 148

ND - Parameter not detected at the stated detection limit.

References:

Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1998. Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using

Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments QA/QC for Samples 58909-58912 ч Analyst



91. **1**

Chloride

Client:	Coulthurst Mgmt	Project #:	06027-0002
Sample ID:	NMSF081171K SENW 33, 18N,, 3W	Date Reported:	07/13/11
Lab ID#:	58909	Date Sampled:	
Sample Matrix:	Aqueous	Date Received:	07/12/11
Preservative:	Cool	Date Analyzed:	07/13/11
Condition:	Intact	Chain of Custody:	12162

The second se	
Parameter	Concentration (mg/L)

Total Chloride

30

Reference:U.S.E.P.A., 4500B, "Methods for Chemical Analysis of Water and Wastes", 1983.Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments:

Erin #3

M Analyst

Review

5796 US Highway 64, Farmington, NM 87401



Water Analysis

Paramet	er Result		Units
	Analytical		
Condition:	Intact	Chain of Custody:	12162
Preservative:	Cool	Date Analyzed:	07/13/11
Sample Matrix:	Aqueous	Date Received:	07/12/11
Laboratory Number:	58909	Date Sampled:	
Sample ID:	NMSF 081171K SENW 33, 18N,,3W	Date Reported:	07/15/11
Client:	Coulthurst Mgmt	Project #:	06027-0002

Total Dissolved Solids @ 180C

1,390

mg/L

Reference:

U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983. Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: Erin #3

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Analyst

5796 US Highway 64, Farmington, NM 87401

CHAIN OF CUSTODY RECORD

Client:	N	4-	Project Name /	r 2										ANAL	YSIS	/ PAR	AME	TERÍS	•				
Client: Coutthurst Client Address:	-GN		Sampler Name: Phille Client No.:	<u> </u>	Centor	15 -			8015)	1 8021)	8260)	s											
Client Phone No.:			Client No.:	027	-0002				TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion		TCLP with H/P		TPH (418.1)	CHLORIDE	m			Sample Cool	Sample Intact
Sample No./ Identification	Sample Date	Sample Time	Lab No.	1	Sample Matrix	No./Volume of Containers			TPH (BTEX	VOC (RCRA	Catior	RCI	TCLP	PAH	TPH	CHLC	<u> </u>	j		Samp	Samp
NMSF08117 SENW33	IK	0	58909	Soil Solid	Sludge	2 has			X	X	ļ			 				X	Х			Y	¥
SENWSS	102	,, ö	¥¥ 	Soil Solid Soil	Sludge Aqueous Sludge									 									
				Solid Solid	Aqueous Sludge																		·
				Solid Soil	Aqueous Sludge																		
				Solid Soil	Aqueous Sludge																		
				Solid Soil Solid	Aqueous Sludge Aqueous				+														
				Soil Solid	Sludge Aqueous																		
				Soil Solid	Sludge Aqueous																		
				Soil Solid	Sludge Aqueous]			
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Relinquished by: (Signa	ture) L	<i></i>					A	Receiv	ed by:	(Sign	ature)												
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					2	An	aly	tico	il La	bord	ator	y y							"BM				
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EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

Client:	Coulthurst Mgmt	Project #:	06027-0002
Sample ID:	MWNE, 33, 18N, 3W NMSF-081171K	Date Reported:	07-14-11
Laboratory Number:	58910	Date Sampled:	
Chain of Custody No:	12163	Date Received:	07-12-11
Sample Matrix:	Aqueous	Date Extracted:	07-13-11
Preservative:	Cool	Date Analyzed:	07-13-11
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/L)	Det. Limit (mg/L)
Gasoline Range (C5 - C10)	0.8	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	0.8	0.1

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments:

Erin #9

m Review

5796 US Highway 64, Farmington, NM 87401



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EPA Method 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:		N/A
Sample ID:	0713TBLK QA/QC	Date Reported:		07-14-11
Laboratory Number:	58909	Date Sampled:		N/A
Sample Matrix:	Methylene Chloride	Date Received:		N/A
Preservative:	N/A	Date Analyzed:		07-13-11
Condition:	N/A	Analysis Reques	ted:	ТРН
	l-Cal	RF. C-Cal RF	1% Difference	Accept: Range
Gasoline Range C5 - C10	1.0000	E+000 9.9800E-001	0.20%	0 - 15%
Diesel Range C10 - C28	9.9372	2E-001 9.9173E-001	0.20%	0 - 15%
Blank Conc. (mg/L)	Concer	itration	Detection Limit	
Gasoline Range C5 - C10	3.1	7	0.2	
Diesel Range C10 - C28	7.9	9	0.1	
المحاوية والمحاورة والمحاورة والمحاورة والمحاورة والمحاورة والمحاورة والمحاورة والمحاورة والمحاورة والمحادية		icate % Differènce	Accept. Range	
Duplicate Conc. (mg/L)	Sample	cate %. Unierence	Accept. Range	
Duplicate Conc. (mg/L) Gasoline Range C5 - C10	0.3 0.1	والمحاجز والإشارية فكالكوفي المعتر ومرار فيتحدث والمعاري والمعارية والمعامية والمعارية	0 - 30%	
C and the second s Second second s Second second s Second second seco	تامكلنج اللاشا مشتمطا لثنة ووالناء فالسماء لعهاتانا فالناه الاخذة فمحاد بالمغالة والمحادثة بال	3 0.0%		
Gasoline Range C5 - C10 Diesel Range C10 - C28	0.3 0. ND N	3 0.0% D 0.0%	0 - 30%	Accept Rang
Gasoline Range C5 - C10	0.3 0. ND N	3 0.0% D 0.0% Added Spike Result	0 - 30% 0 - 30%	Accept/ Rang 75 - 125%

ND - Parameter not detected at the stated detection limit.

References:

Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments:

QA/QC for Sample 58909-58912

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Review

5796 US Highway 64, Farmington, NM 87401



EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Coulthurst Mgmt	Project #:	06027-0002
Sample ID:	MWNE, 33, 18N, 3W NMSF-081171K	Date Reported:	07-15-11
Chain of Custody:	12163	Date Sampled:	
Laboratory Number:	58910	Date Received:	07-12-11
Sample Matrix:	Aqueous	Date Analyzed:	07-14-11
Preservative:	Cool	Analysis Requested:	BTEX
Condition:	Intact		

	Concentration	Dilution	Det. Limit
Parameter	(ug/L)	Factor	(ug/L)
Benzene	8.4	1	0.2
Toluene	58.6	1	0.2
Ethylbenzene	53.8	1	0.2
p,m-Xylene	305	1	0.2
o-Xylene	112	1	0.1

Total BTEX

538

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries: Parameter	Percent Recovery
fluorobenzene	90.5 %
1,4-difluorobenzene	91.9 %
4-bromochlorobenzene	102 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments:

Erin #9

5 Review

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EPA METHOD 8021 AROMATIC VOLATILE ORGANICS QUALITY ASSURANCE REPORT

Client: Sample ID: Laboratory Number: Sample Matrix: Preservative:	N/A 0714BBLK QA/QC 58909 Aqueous N/A]] · [Project #: Date Reported: Date Sampled: Date Received: Date Analyzed:		N/A 07-15-11 N/A N/A 07-14-11
Condition:	N/A	1	Analysis:		BTEX
Calibration and	l-Ĉal RF	C-Cal RF:	%Diff,	Blank	Detect.
Detection Limits (ug/L)		Accept, Rang	0 - 15%	Conc	Limit
Benzene	2.9392E+006	2.9480E+006	0.3%	ND	0.2
Toluene	2.9994E+006	3.0084E+006	0.3%	ND	0.2
Ethylbenzene	2.6453E+006	2.6532E+006	0.3%	ND	0.2
p,m-Xylene	7.0148E+006	7.0359E+006	0.3%	ND	0.2
o-Xylene	2.4121E+006	2.4193E+006	0.3%	ND	0.1
Duplicate Conc: (ug/L)	Sample	Duplicate	%Diff.	Accept Limit	
Duplicate Conc. (ug/L) Benzene Toluene Ethylbenzene p,m-Xylene o-Xylene	6.9 5.2 30.2 87.3 55.8	7.1 5.7 28.9 83.9 52.7	%Diff. 3.7% 9.4% 4.1% 3.9% 5.6%	Accept Limit 0 - 30% 0 - 30% 0 - 30% 0 - 30% 0 - 30%	
Benzene Toluene Ethylbenzene p,m-Xylene o-Xylene	6.9 5.2 30.2 87.3	7.1 5.7 28.9 83.9	3.7% 9.4% 4.1% 3.9%	0 - 30% 0 - 30% 0 - 30% 0 - 30%	Accept Limits
Benzene Toluene Ethylbenzene p,m-Xylene o-Xylene	6.9 5.2 30.2 87.3 55.8 Sample 6.9	7.1 5.7 28.9 83.9 52.7 Amount Spiked 50.0	3.7% 9.4% 4.1% 3.9% 5.6% Spiked Sämple 59.9	0 - 30% 0 - 30% 0 - 30% 0 - 30% 0 - 30% % Recovery 105%	Accept Limits
Benzene Toluene Ethylbenzene p,m-Xylene o-Xylene Spike Conc. (ug/L)	6.9 5.2 30.2 87.3 55.8 Sample	7.1 5.7 28.9 83.9 52.7 Amount Spiked	3.7% 9.4% 4.1% 3.9% 5.6% Spiked Sample	0 - 30% 0 - 30% 0 - 30% 0 - 30% 0 - 30% % Recovery 105% 97.2%	Accept Limits
Benzene Toluene Ethylbenzene p,m-Xylene o-Xylene Spike Conc. (ug/L) Benzene	6.9 5.2 30.2 87.3 55.8 Sample 6.9	7.1 5.7 28.9 83.9 52.7 Amount Spiked 50.0	3.7% 9.4% 4.1% 3.9% 5.6% Spiked Sämple 59.9	0 - 30% 0 - 30% 0 - 30% 0 - 30% 0 - 30% % Recovery 105%	Accept Limits
Benzene Toluene Ethylbenzene p,m-Xylene o-Xylene Spike Conc. (ug/L) Benzene Toluene	6.9 5.2 30.2 87.3 55.8 Sample, 6.9 5.2	7.1 5.7 28.9 83.9 52.7 . Amount Spiked 50.0 50.0	3.7% 9.4% 4.1% 3.9% 5.6% Spiked Sample 59.9 53.7	0 - 30% 0 - 30% 0 - 30% 0 - 30% 0 - 30% % Recovery 105% 97.2%	<u>Accept Limits .</u> 39 - 150 46 - 148

ND - Parameter not detected at the stated detection limit.

References:

Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846; USEPA, December 1996.

Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments: QA/QC for Samples 58909-58912 4 Review Analye



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Chloride

Client: Sample ID: Lab ID#:	Coulthurst Mgmt MWNE.33, 18N 3W, NMSF-081171K 58910	Project #: Date Reported: Date Sampled:	06027-0002 07/13/11
Sample Matrix:	Aqueous	Date Received:	07/12/11
Preservative:	Cool	Date Analyzed:	07/13/11
Condition:	Intact	Chain of Custody:	12163

Dovovotov	
Parameter	Concentration (mg/L)

Total Chloride

15

Reference:

U.S.E.P.A., 4500B, "Methods for Chemical Analysis of Water and Wastes", 1983. Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments:	Erin #9			
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Analyst				Rev
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5796 US Highway 64, Farmington, NM 87401 Ph (505) 632-0615 Fr (800) 362-1879 Fx (505) 632-1865 lab@envirotech-inc.com envirotech-inc.com



Water Analysis

Paramet	er Result		Units
	Analytical		
Condition:	Intact	Chain of Custody:	12163
,		Date Analyzed:	07/13/11
Preservative:	Cool		
Sample Matrix:	Aqueous	Date Received:	07/12/11
Laboratory Number:	58910	Date Sampled:	
Sample ID:	MWNE, 33, 18N 3W, NMSF-081171K	Date Reported:	07/15/11
Client:	Coulthurst Mgmt	Project #:	06027-0002

Total Dissolved Solids @ 180C

1,320

mg/L

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983. Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: Erin #9

Anatvs

5796 US Highway 64, Farmington, NM 87401

Review

CHAIN OF CUSTODY RECORD

12163

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Client:	+ M	·+	Project Name / L	Location	1:				ANALYSIS / PARAMETERS														
Client: Coutturs Client Address: Client Phone No.:			Sampler Name:	<u>1</u>	1				15)	021)X	60)	1]	<u> </u>	1			*	<u>†</u>				[
			Thillip	<u>M</u>	mtoya	2			80.	0 B(182	als	L C		٩								-
Client Phone No.:			Client No.: 0602	7-0	0002				Aethod	Metho	Aethoc	8 Meta	/ Anio		vith H/		18.1)	RIDE	5			Cool	Intac
Sample No./ Identification	Sample Date	Sample Time		S	ample Matrix	No./Volun of Containe			TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI	TCLP with H/P	PAH	TPH (418.1)	CHLORIDE	R			Sample Cool	Sample Intact
			58910	Soil Solid C	Sludge Aqueous	2.ja	son NS		X	X								X				Y	ý
MWNE, 33, 181 3W, NMSF	60-	אור וו	÷	Soil Solid	Sludge Aqueous																		
				Soil Solid	Sludge Aqueous																		
				Soil Solid	Sludge Aqueous						 												-
				Soil Solid	Sludge Aqueous																		
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				Soil Solid	Sludge Aqueous					<u> </u>	 					<u> </u>							
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EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

Client:	Coulthurst Mgmt	Project #:	06027-0002
Sample ID:	NMSF 081171K API 30-043-20887	Date Reported:	07-14-11
Laboratory Number:	58912	Date Sampled:	
Chain of Custody No:	12165	Date Received:	07-12-11
Sample Matrix:	Aqueous	Date Extracted:	07-13-11
Preservative:	Cool	Date Analyzed:	07-13-11
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/L)	Det. Limit (mg/L)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1

ND

0.1

Total Petroleum Hydrocarbons

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: So. Sa	n Luis Water \	Well #1			
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Analyst			Review		
5796 US Highway 64, Farmington, NM 87401	Ph (505)632-0615	Fr (800) 362-1879	Fx (505) 632-1865	lab@envirotech-inc.com	envirotech-inc.com



EPA Method 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC		Project #:		N/A
Sample ID:	0713TBLK QA	QC	Date Reported:		07-14-11
Laboratory Number:	58909		Date Sampled:		N/A
Sample Matrix:	Methylene Chlorid	de	Date Received:		N/A
Preservative:	N/A		Date Analyzed:		07-13-11
Condition:	N/A		Analysis Requeste	ed:	TPH
		I-Cal RF: (C-Cal RF:	% Difference	Accept Range
Gasoline Range C5 - C10		1.0000E+000	9.9800E-001	0.20%	0 - 15%
Diesel Range C10 - C28		9.9372E-001	9.9173E-001	0.20%	0 - 15%
					1
Blank Conc. (mg/L)	<u></u>	Concentration		Detection Lin	<u>il</u>
Gasoline Range C5 - C10		3.7		0.2	
Diesel Range C10 - C28		7.9		0.1	
والمستحركة المحكور المستعر والمستحر والمستحر والمستحر والمستحر والمستحد والمستحد والمستحد والمستحر والمستحر					
Duplicate Conc. (mg/L)	Sample)	Duplicate	• % Difference	Accept: Range	
Gasoline Range C5 - C10	0.3	0.3	0.0%	0 - 30%	
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%	
Splke Conc. (mg/L)	Sample	Spike Added	Spike Result	% Recovery	Accept: Range
Gasoline Range C5 - C10	0.3	25.0	24.8	98.0%	75 - 125%
Diesel Range C10 - C28	ND	25.0	24.8	99.2%	75 - 125%

ND - Parameter not detected at the stated detection limit.

References:

Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments:

QA/QC for Sample 58909-58912

Review

5796 US Highway 64, Farmington, NM 87401



EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Coulthurst Mgmt	Project #:	06027-0002
Sample ID:	NMSF 081171K API 30-043-20887	Date Reported:	07-15-11
Chain of Custody:	12165	Date Sampled:	
Laboratory Number:	58912	Date Received:	07-12-11
Sample Matrix:	Aqueous	Date Analyzed:	07-14-11
Preservative:	Cool	Analysis Requested:	BTEX
Condition:	Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
			•
Benzene	2.3	1	0.2
Toluene	ND	1	0.2
Ethylbenzene	0.5	1	0.2
p,m-Xylene	1.4	1	0.2
o-Xylene	0.8	1	0.1

Total BTEX

5.0

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries: Parameter	Percent Recovery
fluorobenzene	95.7 %
1,4-difluorobenzene	101 %
4-bromochlorobenzene	101 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments:

So. San Luis Water Well #1

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Review



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EPA METHOD 8021 **AROMATIC VOLATILE ORGANICS QUALITY ASSURANCE REPORT**

Client: Sample ID; Laboratory Number: Sample Matrix: Preservative: Condition:	N/A 0714BBLK QA/QC 58909 Aqueous N/A N/A		Project #: Date Reported: Date Sampled: Date Received: Date Analyzed: Analysis:		N/A 07-15-11 N/A N/A 07-14-11 BTEX
Calibration and • Detection Limits (ug/L)	I-Cal RF:	C-Cal RF: Accept. Ran	%Diff. ge 0 - 15%	Blank Conc	Detect. Limit
Benzene	2.9392E+006	2.9480E+006	0.3%	ND	0.2
Toluene	2.9994E+006	3.0084E+006	0.3%	ND	0.2
Ethylbenzene	2.6453E+006	2.6532E+008	0.3%	ND	0.2
p,m-Xylene	7.0148E+006	7.0359E+006	0.3%	ND	0.2
o-Xylene	2.4121E+006	2.4193E+006	0.3%	ND	0.1
Duplicate Conc. (ug/L)	Sample	Duplicate	%Diff.	Accept Limit	
Benzene	6.9	7.1	3.7%	0 - 30%	
Toluene	5.2	5.7	9.4%	0 - 30%	
Ethylbenzene	30.2	28.9	4.1%	0-30%	
p,m-Xylene	87.3	83.9	3.9%	0 - 30%	
o-Xylene	55.8	52.7	5.6%	0 - 30%	
Spike Conc. (ug/L)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Limits
Benzene	6.9	50.0	59.9	105%	39 - 150
Toluene	5.2	50.0	53.7	97.2%	46 - 148

ND - Parameter not detected at the stated detection limit.

References:

Ethylbenzene

p,m-Xylene

o-Xylene

Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996. Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using

50.0

100

50.0

85.6

140

104

107%

74.8%

98.1%

32 - 160 46 - 148

46 - 148

30.2

87.3

55.8

Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments: QA/QC for Samples 58909-58912

Review



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Chloride

Lab ID#:58912Date Sampled:Sample Matrix:AqueousDate Received:07/12/11	Client: Sample ID:	Coulthurst Mgmt NMSF 081171K API 30-043-20887	Project #: Date Reported:	06027-0002 07/13/11
	•	58912	•	
Decomposition Cool Data Applyzed: 07/12/11	Sample Matrix:	Aqueous	Date Received:	07/12/11
Preservative: Cool Date Analyzeo. 0713/11	Preservative:	Cool	Date Analyzed:	07/13/11
Condition: Intact Chain of Custody: 12165	Condition:	Intact	Chain of Custody:	12165

Parameter	Concentration (mg/L)	

Total Chloride

100

Reference: U.S.E.P.A., 4500B, "Methods for Chemical Analysis of Water and Wastes", 1983. Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments:

So. San Luis Water Well #1

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 Review

 Ph (505)632-0615
 Fr (800) 362-1879
 Fx (505) 632-1865
 lab@envirotech-inc.com
 envirotech-inc.com



Water Analysis

Parame	ter Result	Result	
	Analytical		Units
Condition:	Intact	Chain of Custody:	12165
Preservative:	Cool	Date Analyzed:	07/13/11
Sample Matrix:	Aqueous	Date Received:	07/12/11
Laboratory Number:	58912	Date Sampled:	
Sample ID:	NMSF 081171K API 30-043-20887	Date Reported:	07/15/11
Client:	Coulthurst Mgmt	Project #:	06027-0002

U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983. Reference: Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: So. San Luis Water Well #1

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Review

CHAIN OF CUSTODY RECORD

Project Name / Location: Client: ANALYSIS / PARAMETERS Coulthurst Ment So. San Luis Water Wall #1 Sampler Name: Phillip Montoys Client Address: BTEX (Method 8021) VOC (Method 8260) TPH (Method 8015) Gibs. NM **RCRA 8 Metals FCLP** with H/P Cation / Anion Sample Intact Client Phone No .: TPH (418.1) Sample Cool Client No.: CHLORIDE 06027-0002 5 A No./Volume Preservative Sample No./ Sample Sample Sample PAH BCI Lab No. of Containers HgCl₂ HCl Identification Matrix Date Time Mast Soil Sludge Х V Y メ \succ 58912 NMSF 0811714 API 30-043-20887 Solid Aqueous Soil Sludge Solid Aqueous Soil Sludae Solid Aqueous Soil Sludge Solid Aqueous Received by: (Signature) Relinquished by: (Signature) Date Time Date Time 7/12/11 1:05 agues 7 121 1:05 Relinquished by: (Signature) Received by: (Signature) Relinquished by: (Signature) Received by: (Signature) envirotech **Analytical Laboratory** 5796 US Highway 64 • Farmington, NM 87401 • 505-632-0615 • lab@envirotech-inc.com

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