DATE IN	SUSPENSE	ENGINEER	LOGGED IN	TYPE	APP NO.
3/27/09		T. Warnell	3/27/09	~~PMX~~ SWD	pKAA0908657817

ABOVE THIS LINE FOR DIVISION USE ONLY

30-045-30096
Cowsaround SWD #1

RECEIVED
2009 MAR 27 PM 12 10

NEW MEXICO OIL CONSERVATION DIVISION
- Engineering Bureau -
1220 South St. Francis Drive, Santa Fe, NM 87505

Coleman O&G.
4838

ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Application Acronyms:

[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]
[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] **TYPE OF APPLICATION** - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Simultaneous Dedication
☐ NSL ☐ NSP ☐ SD

~~PMX~~ SWD

Check One Only for [B] or [C]

[B] Commingling - Storage - Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☒ PMX ☒ SWD ☐ IPI ☐ EOR ☐ PPR

OGRID 4838

[D] Other: Specify Expand Disposal Permit

[2] **NOTIFICATION REQUIRED TO:** - Check Those Which Apply, or ☐ Does Not Apply

[A] ☐ Working, Royalty or Overriding Royalty Interest Owners

[B] ☒ Offset Operators, Leaseholders or **Surface Owner**

764-SWD-Mesaverde

[C] ☐ Application is One Which Requires Published Legal Notice

32003

[D] ☐ Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office

[E] ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,

[F] ☐ Waivers are Attached

[3] **SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.**

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Michael T. Hanson	Michael T. Hanson	Operations Engineer	March 26, 2009
Print or Type Name	Signature	Title	Date

mhanson@cog-fmn.com
e-mail Address

P.O. DRAWER 3337
FARMINGTON, NM 87499

OFFICE: 505-327-0356
FAX: 505-327-9425

COLEMAN OIL & GAS, INC.

Thursday, March 26, 2009

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

Re: Cowsaround SWD #1 Administrative Order SWD - 764

Dear Mr. William Jones,

Coleman Oil & Gas, Inc wishes to expand its disposal permit to allow for produced water from Enterprise Chaco Plant operations. The volume of produced water would be approximately eighty barrels per day initially trucked to the Cowsaround SWD #1.

a. The following information is provided to you for your approval of this expansion of the Cowsaround SWD #1 Administrative Order SWD – 764; API # 30-045-30096.

b. Coleman Oil & Gas, Inc., understands that the produced water will be recovered from operations at Chaco Plant operated by Enterprise Products CO LP due to liquid separation due to operations such as pigging and separation process from gas steam entering Chaco Plant.

c. As long as the produced water quality remains within standards of Class II disposal and capacity of disposal dictates, it would be expected that the time interval would be the period of original disposal approval.

d. It is our understanding that Enterprise Products CO LP will install produced water storage tanks at their Chaco Plant Facility and that the water initially will be trucked to Coleman's produced water storage tanks at the Cowsaround Disposal Facility. At a later date it is my understanding that Enterprise Products CO LP intends to install a produced water line and at that time water would be transferred to Coleman's facility by pipeline.

e. Coleman Oil & Gas, Inc. has been approached by Enterprise Products CO LP to utilize its agreement with Pendragon Energy Partners, Inc. Pendragon during negotiations with El Paso now known as Enterprise

Products CO LP, surface owner on which Pendragon drilled and completed the Cowsaround SWD #1 Administrative Order SWD – 764; API # 30-045-30096, agreed to take eighty barrels per day and up to one hundred sixty barrels with restrictions depending on disposal rates and quality of the produced water.

f. The Cowsaround SWD #1 was drilled and completed by Pendragon Energy Partners, Inc. and Coleman Oil & Gas, Inc. with Pendragon as the operator. After the sale of Pendragon to Red Willow Production Company (Running Horse LLC), Coleman Oil & Gas, Inc. exercised its right to operate the Cowsaround disposal well as per the operating agreement, effective February 01, 2003. Coleman Oil & Gas, Inc., operator of the Cowsaround SWD #1 Administrative Order SWD – 764; API # 30-045-30096, will continue to operate within the rules, regulations and any pertinent orders. Coleman's production within the area of this disposal is heavily dependent economically on the capacity of this disposal.

g. After review of analysis provided by Enterprise Products CO LP it is our understanding that this produced water would meet classification of an EPA UIC Class II disposal.

I have attached fluid analysis provided to Coleman Oil & Gas, Inc by Enterprise Products CO LP. If you have any question or need additional information please give me a call or email.

Michael T. Hanson

Michael T. Hanson

Coleman Oil & Gas, Inc.
Operations Engineer
Office (505) 566-1996
Mobile (505) 330-2903
mhanson@cog-fmn.com

cc: Aztec OCD
Enterprise Products CO LP
Chris Coleman
Well File

Cowsaround SWD #1 - Data

From: "Seale, Runell" <RSeale@epco.com>
To: "cogmhanson@sprynet.com"
Cc: "Morris, Ralph" <RAMorris@epco.com>, "Fernald, Donald" <dfernald@epco.com>, "Roesler, Clayton" <CRoesler@epco.com>
Subject: Cowsaround SWD #1 - Data
Date: Feb 5, 2009 8:19 AM
Attachments: OCD Form c108.pdf OCD Operators expansion of Disposal well use..docx Chaco Gathering Water Analysis 1-23-09.pdf

Mike,

Attached is the water analysis report for your review. I have also attached the data requirements from Charlie Perrin at the OCD that will need to be submitted to gain OCD approval. I have spoken to both Charlie Perrin in Aztec and Will Jones in Santa Fe about additional water going into the facility and as long as we meet the criteria in the document there is no problem with your taking additional water into the SWD. Ralph Morris and I would like to set up a meeting on Friday morning to talk with you about moving forward with the details of this project. Please advise if you would like for us to come to your office or if you would like to come over here (614 Reilly Ave, Main Office) for the meeting. If Friday AM is not acceptable how about 10:00 AM or 1:30 PM on Monday?

Runell A. Seale

Environmental Specialist
EHS&T-Environmental Permitting
EPCO, Inc.
Providing services to Enterprise Products and TEPPCO

614 Reilly Ave.
Farmington, NM 87401
505 599.2124 office
505 599.2538 fax
505 320.2816 cell
RSeale@epco.com

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Monday, February 02, 2009

Denny Foust
Souder, Miller and Associates
612 E Murray Dr.
Farmington, NM 87401

TEL: (505) 325-5667
FAX (505) 327-1496

RE: Chaco Gathering System

Order No.: 0901331

Dear Denny Foust:

Hall Environmental Analysis Laboratory, Inc. received 3 sample(s) on 1/23/2009 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites.

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

NM Lab # NM9425
AZ license # AZ0682
ORELAP Lab # NM100001
Texas Lab# T104704424-08-TX

Hall Environmental Analysis Laboratory, Inc.

Date: *02-Feb-09*

CLIENT:	Souder, Miller and Associates	**Client Sample ID:**	Bisti Tank
Lab Order:	0901331	**Collection Date:**	1/21/2009 11:30:00 AM
Project:	Chaco Gathering System	**Date Received:**	1/23/2009
Lab ID:	0901331-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **RAGS**
Chloride	6500	20		mg/L	200	1/27/2009 8:56:25 PM
Sulfate	14	5.0		mg/L	10	1/27/2009 12:31:37 PM
EPA 6010B: HARDNESS						Analyst: **TES**
Hardness (As CaCO3)	350	1.0		mg/L	1	1/28/2009
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **TES**
Calcium	95	50		mg/L	50	1/28/2009 3:38:09 PM
Iron	29	1.0		mg/L	50	1/28/2009 4:46:53 PM
Magnesium	ND	50		mg/L	50	1/28/2009 3:38:09 PM
Potassium	ND	50		mg/L	50	1/28/2009 3:38:09 PM
Sodium	4400	50		mg/L	50	1/28/2009 3:38:09 PM
SM 2320B: ALKALINITY						Analyst: **KMS**
Alkalinity, Total (As CaCO3)	520	40		mg/L CaCO3	2	1/28/2009
Carbonate	ND	4.0		mg/L CaCO3	2	1/28/2009
Bicarbonate	520	40		mg/L CaCO3	2	1/28/2009
Hydroxide	ND	4.0		mg/L CaCO3	2	1/28/2009
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **KMS**
Specific Conductance	27000	0.10		µmhos/cm	10	1/27/2009
SM4500-H+B: PH						Analyst: **KMS**
pH	6.89	0.1		pH units	1	1/26/2009
SPECIFIC GRAVITY BY SM 2710F						Analyst: **TAF**
Specific Gravity	1.0	0			1	1/28/2009
SM 2540 C: TOTAL DISSOLVED SOLIDS						Analyst: **KMS**
Total Dissolved Solids	14000	400		mg/L	1	1/26/2009

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Estimated value
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
S	Spike recovery outside accepted recovery limits
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
MCL	Maximum Contaminant Level
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Date: *02-Feb-09*

CLIENT:	Souder, Miller and Associates	**Client Sample ID:**	Ethylene Glycol Separator @ Pump
Lab Order:	0901331	**Collection Date:**	1/22/2009 1:35:00 PM
Project:	Chaco Gathering System	**Date Received:**	1/23/2009
Lab ID:	0901331-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **RAGS**
Chloride	ND	0.50		mg/L	5	1/27/2009 8:04:12 PM
Sulfate	ND	2.5		mg/L	5	1/27/2009 8:04:12 PM
EPA 6010B: HARDNESS						Analyst: **TES**
Hardness (As CaCO3)	ND	1.0		mg/L	1	1/28/2009
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **TES**
Calcium	ND	50		mg/L	50	1/28/2009 3:54:57 PM
Iron	5.1	1.0		mg/L	50	1/28/2009 4:58:17 PM
Magnesium	ND	50		mg/L	50	1/28/2009 3:54:57 PM
Potassium	ND	50		mg/L	50	1/28/2009 3:54:57 PM
Sodium	ND	50		mg/L	50	1/28/2009 3:54:57 PM
SM 2320B: ALKALINITY						Analyst: **KMS**
Alkalinity, Total (As CaCO3)	ND	40		mg/L CaCO3	2	1/28/2009
Carbonate	ND	4.0		mg/L CaCO3	2	1/28/2009
Bicarbonate	ND	40		mg/L CaCO3	2	1/28/2009
Hydroxide	ND	4.0		mg/L CaCO3	2	1/28/2009
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **KMS**
Specific Conductance	22	0.10		µmhos/cm	10	1/27/2009
SM4500-H+B: PH						Analyst: **KMS**
pH	6.14	0.1		pH units	1	1/26/2009
SPECIFIC GRAVITY BY SM 2710F						Analyst: **TAF**
Specific Gravity	0.98	0			1	1/28/2009
SM 2540 C: TOTAL DISSOLVED SOLIDS						Analyst: **KMS**
Total Dissolved Solids	ND	100		mg/L	1	1/30/2009

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Estimated value	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *02-Feb-09*

CLIENT:	Souder, Miller and Associates	**Client Sample ID:**	3 Phase Separator
Lab Order:	0901331	**Collection Date:**	1/22/2009 1:48:00 PM
Project:	Chaco Gathering System	**Date Received:**	1/23/2009
Lab ID:	0901331-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **RAGS**
Chloride	220	1.0		mg/L	10	1/27/2009 12:49:01 PM
Sulfate	90	5.0		mg/L	10	1/27/2009 12:49:01 PM
EPA 6010B: HARDNESS						Analyst: **TES**
Hardness (As CaCO3)	100	1.0		mg/L	1	1/28/2009
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **TES**
Calcium	39	10		mg/L	10	1/28/2009 3:44:58 PM
Iron	140	10		mg/L	500	1/28/2009 5:00:51 PM
Magnesium	ND	10		mg/L	10	1/28/2009 3:44:58 PM
Potassium	ND	10		mg/L	10	1/28/2009 3:44:58 PM
Sodium	110	10		mg/L	10	1/28/2009 3:44:58 PM
SM 2320B: ALKALINITY						Analyst: **KMS**
Alkalinity, Total (As CaCO3)	420	40		mg/L CaCO3	2	1/28/2009
Carbonate	ND	4.0		mg/L CaCO3	2	1/28/2009
Bicarbonate	420	40		mg/L CaCO3	2	1/28/2009
Hydroxide	ND	4.0		mg/L CaCO3	2	1/28/2009
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **KMS**
Specific Conductance	2000	0.10		µmhos/cm	10	1/27/2009
SM4500-H+B: PH						Analyst: **KMS**
pH	6.72	0.1		pH units	1	1/26/2009
SPECIFIC GRAVITY BY SM 2710F						Analyst: **TAF**
Specific Gravity	0.99	0			1	1/28/2009
SM 2540 C: TOTAL DISSOLVED SOLIDS						Analyst: **KMS**
Total Dissolved Solids	560	400		mg/L	1	1/26/2009

Qualifiers:	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank	
	E	Estimated value	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level	
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit	
	S	Spike recovery outside accepted recovery limits			

QA/QC SUMMARY REPORT

Client: Souder, Miller and Associates
Project: Chaco Gathering System **Work Order:** 0901331

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0: Anions									
Sample ID: MB		*MBLK*			Batch ID:	**R32193**	Analysis Date:	1/27/2009 11:56:49 AM	
Chloride	ND	mg/L	0.10						
Sulfate	ND	mg/L	0.50						
Sample ID: LCS		*LCS*			Batch ID:	**R32193**	Analysis Date:	1/27/2009 12:14:13 PM	
Chloride	4.849	mg/L	0.10	97.0	90	110			
Sulfate	10.04	mg/L	0.50	100	90	110			
Method: SM 2320B: Alkalinity									
Sample ID: MB		*MBLK*			Batch ID:	**R32201**	Analysis Date:	1/28/2009	
Alkalinity, Total (As CaCO3)	ND	mg/L CaC	20						
Carbonate	ND	mg/L CaC	2.0						
Bicarbonate	ND	mg/L CaC	20						
Sample ID: LCS		*LCS*			Batch ID:	**R32201**	Analysis Date:	1/28/2009	
Alkalinity, Total (As CaCO3)	84.00	mg/L CaC	20	104	80	120			

Qualifiers:

E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Souder, Miller and Associates
Project: Chaco Gathering System **Work Order:** 0901331

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 6010B: Dissolved Metals									
Sample ID: 0901331-03B MSD		*MSD*			Batch ID:	**R32196**	Analysis Date:		1/28/2009 3:49:57 PM
Calcium	522.4	mg/L	10	95.7	75	125	0.320	20	
Magnesium	449.5	mg/L	10	88.8	75	125	0.937	20	
Potassium	462.9	mg/L	10	83.7	75	125	0.318	20	
Sodium	528.9	mg/L	10	83.1	75	125	0.952	20	
Sample ID: 0901331-03B MSD		*MSD*			Batch ID:	**R32196**	Analysis Date:		1/28/2009 4:55:54 PM
Iron	144.2	mg/L	0.20	2880	75	125			SE
Sample ID: MB		*MBLK*			Batch ID:	**R32196**	Analysis Date:		1/28/2009 3:02:42 PM
Calcium	ND	mg/L	1.0						
Magnesium	ND	mg/L	1.0						
Potassium	ND	mg/L	1.0						
Sodium	ND	mg/L	1.0						
Sample ID: MB		*MBLK*			Batch ID:	**R32196**	Analysis Date:		1/28/2009 4:41:44 PM
Iron	ND	mg/L	0.020						
Sample ID: LCS		*LCS*			Batch ID:	**R32196**	Analysis Date:		1/28/2009 3:35:34 PM
Calcium	46.41	mg/L	1.0	91.9	80	120			
Magnesium	45.61	mg/L	1.0	90.3	80	120			
Potassium	47.97	mg/L	1.0	87.2	80	120			
Sodium	43.45	mg/L	1.0	86.0	80	120			
Sample ID: LCS		*LCS*			Batch ID:	**R32196**	Analysis Date:		1/28/2009 4:44:15 PM
Iron	0.4560	mg/L	0.020	91.2	80	120			
Sample ID: 0901331-03B MS		*MS*			Batch ID:	**R32196**	Analysis Date:		1/28/2009 3:47:33 PM
Calcium	524.1	mg/L	10	96.1	75	125			
Magnesium	453.7	mg/L	10	89.7	75	125			
Potassium	464.4	mg/L	10	83.9	75	125			
Sodium	534.0	mg/L	10	84.1	75	125			
Sample ID: 0901331-03B MS		*MS*			Batch ID:	**R32196**	Analysis Date:		1/28/2009 4:53:27 PM
Iron	145.1	mg/L	0.20	2900	75	125			SE
Method: SM 2540 C: Total Dissolved Solids									
Sample ID: MB-18184		*MBLK*			Batch ID:	**18184**	Analysis Date:		1/30/2009
Total Dissolved Solids	ND	mg/L	20						
Sample ID: LCS-18161		*LCS*			Batch ID:	**18161**	Analysis Date:		1/26/2009
Total Dissolved Solids	1029	mg/L	20	103	80	120			
Sample ID: LCS-18184		*LCS*			Batch ID:	**18184**	Analysis Date:		1/30/2009
Total Dissolved Solids	1009	mg/L	20	101	80	120			

Qualifiers:

E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

ENVIRONMENTAL
SCIENCE CORP.

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Anne Thorne
Hall Environmental Analysis Laborat
4901 Hawkins NE
Albuquerque, NM 87109

February 02, 2009

ESC Sample # : L385163-01

Site ID :

Project # : 0901331

Date Received : January 27, 2009
Description : 0901331

Sample ID : BISTI TANK

Collected By :
Collection Date : 01/21/09 11:30

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Oil & Grease (Hexane Extr)	180	5.0	mg/l	1664A	02/02/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

Reported: 02/02/09 12:46 Printed: 02/02/09 12:46

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Est. 1970

REPORT OF ANALYSIS

Anne Thorne
Hall Environmental Analysis Laborat
4901 Hawkins NE
Albuquerque, NM 87109

February 02, 2009

ESC Sample # : L385163-02

Site ID :

Project # : 0901331

Date Received : January 27, 2009
Description : 0901331

Sample ID : ETHYLENE GLYCOL SEPARATOR PUMP

Collected By :
Collection Date : 01/21/09 13:35

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Oil & Grease (Hexane Extr)	BDL	5.0	mg/l	1664A	02/02/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

Reported: 02/02/09 12:46 Printed: 02/02/09 12:46

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Est. 1970

REPORT OF ANALYSIS

Anne Thorne
Hall Environmental Analysis Laborat
4901 Hawkins NE
Albuquerque, NM 87109

February 02, 2009

Date Received : January 27, 2009
Description : 0901331

ESC Sample # : L385163-03

Site ID :

Sample ID : 3 PHASE SEPARATOR

Project # : 0901331

Collected By :
Collection Date : 01/21/09 13:48

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Oil & Grease (Hexane Extr)	46.	5.0	mg/l	1664A	02/02/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

Reported: 02/02/09 12:46 Printed: 02/02/09 12:46

Summary of Remarks For Samples Printed
02/02/09 at 12:46:51

TSR Signing Reports: 288
R5 - Desired TAT

DO NOT USE Lab Id's as sample name. Use Client Sample ID names Dissolved metals are field filtered unless otherwise noted

Sample: L385163-01 Account: HALLENVANM Received: 01/27/09 09:00 Due Date: 02/03/09 00:00 RPT Date: 02/02/09 12:46
Hard 5
Sample: L385163-02 Account: HALLENVANM Received: 01/27/09 09:00 Due Date: 02/03/09 00:00 RPT Date: 02/02/09 12:46
Hard 5
Sample: L385163-03 Account: HALLENVANM Received: 01/27/09 09:00 Due Date: 02/03/09 00:00 RPT Date: 02/02/09 12:46
Hard 5

ENVIRONMENTAL SCIENCE CORP.

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Est. 1970

Hall Environmental Analysis Laboratory
Anne Thorne
4901 Hawkins NE

Albuquerque, NM 87109

Quality Assurance Report
Level II

L385163

February 02, 2009

[redacted]

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
[redacted]						

[redacted]

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
[redacted]						

[redacted]

Analyte	Units	Result	Ref	%Rec	Limit	RPD	Limit	Batch
[redacted]								

Batch number /Run number / Sample number cross reference

WG404931: R613065: L385163-01 02 03

* * Calculations are performed prior to rounding of reported values .
* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

ENVIRONMENTAL
SCIENCE CORP.

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Est. 1970

Hall Environmental Analysis Laboratory
Anne Thorne
4901 Hawkins NE

Albuquerque, NM 87109

Quality Assurance Report
Level II

L385163

February 02, 2009

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name SMA-FARM | Date Received: 1/23/2009

Work Order Number 0901331 | Received by: ARS

Checklist completed by: _____ (Signature) 1/23/09 (Date) | Sample ID labels checked by: _____ (Initials)

Matrix: | Carrier name Greyhound

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 - Preservation labels on bottle and cap match?	Yes ☑	No ☐	N/A ☐	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐	
Container/Temp Blank temperature?	6°	<6° C *Acceptable* If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Chain-of-Custody Record

Client: SMA

Invoice to EPCO

Mailing Address: 612 E. Murray Drive

Farmington, NM 87401

Phone #: 505-325-5667

email or Fax#: 505-327-1496

QA/QC Package:

☑ Standard ☐ Level 4 (Full Validation)

☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:

☑ Standard ☐ Rush _____

Project Name: Chaco Gathering System

Project #:

Project Manager: Denny Foust

Sampler: Thomas Long

On Ice: ☑ Yes ☐ No

Sample Temperature: 6°

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 0901331
1/21/09	1130	Water	Bisti Tank	3	varies H_2SO_4/HNO3	1
1/22/09	1335	↓	Ethylene Glycol Separator @ Pump	↓		2
1/22/09	1348	↓	3 Phase Separator	↓		3

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	APJ water				Air Bubbles (Y or N)
											X				
											X				
											X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
1/23/08	0845	Thomas Long			
Date:	Time:	Relinquished by:	Received by:	Date	Time
				1/23/09	15:00

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
Betty Rivera
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

ADMINISTRATIVE ORDER SWD-764
(2nd Corrected)

SWD-764-A

APPLICATION OF PENDRAGON ENERGY PARTNERS FOR PRODUCED WATER DISPOSAL, SAN JUAN COUNTY, NEW MEXICO.

ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION DIVISION

Under the provisions of Rule 701(B), Pendragon Energy Partners made application to the New Mexico Oil Conservation Division on February 9, 2000, for permission to complete for produced water disposal its Cowsaround SWD Well No. 1 (**API No. 30-045-30096**) located 2220 feet from the South line and 1680 feet from the West line (Unit K) of Section 16, Township 26 North, Range 12 West, NMPM, San Juan County, New Mexico.

THE DIVISION DIRECTOR FINDS THAT:

(1) The application has been duly filed under the provisions of Rule 701(B) of the Division Rules and Regulations;

(2) Satisfactory information has been provided that all offset operators and surface owners have been duly notified;

(3) The applicant has presented satisfactory evidence that all requirements prescribed in Rule 701 will be met; and

(4) No objections have been received within the waiting period prescribed by said rule.

IT IS THEREFORE ORDERED THAT:

The applicant herein, is hereby authorized to complete its Cowsaround SWD Well No. 1 (**API No. 30-045-30096**) located 2220 feet from the South line and 1680 feet from the West line (Unit K) of Section 16, Township 26 North, Range 12 West, NMPM, San Juan County, New Mexico, in such a manner as to permit the injection of produced water for disposal purposes into the Mesaverde formation from approximately 2,000 feet to 3,882 feet through 2 7/8 inch plastic-lined tubing set in a packer located at approximately 1,908 feet.

IT IS FURTHER ORDERED THAT:

The operator shall take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

Prior to commencing injection operations into the well, the casing shall be pressure tested from the surface to the packer setting depth to assure the integrity of said casing.

The casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge at the surface or left open to the atmosphere to facilitate detection of leakage in the casing, tubing, or packer.

The injection well or system shall be equipped with a pressure limiting device which will limit the wellhead pressure on the injection well to no more than 400 psi.

The Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the injected fluid from the Mesaverde formation. Such proper showing shall consist of a valid step-rate test run in accordance with and acceptable to this office.

The operator shall notify the supervisor of the Aztec district office of the Division of the date and time of the installation of disposal equipment and of any mechanical integrity test so that the same may be inspected and witnessed.

The operator shall immediately notify the supervisor of the Aztec district office of the Division of the failure of the tubing, casing, or packer in said well and shall take such steps as may be timely and necessary to correct such failure or leakage.

PROVIDED FURTHER THAT, jurisdiction is retained by the Division for the entry of such further orders as may be necessary for the prevention of waste and/or protection of correlative rights or upon failure of the operator to conduct operations (1) to protect fresh water or (2) consistent with the requirements in this order, whereupon the Division may, after notice and hearing, terminate the injection authority granted herein.

The operator shall submit monthly reports of the disposal operations on Division Form C-115, in accordance with Rule Nos. 706 and 1120 of the Division Rules and Regulations.

The injection authority granted herein shall terminate one year after the effective date of this order if the operator has not commenced injection operations into the subject well, provided however, the Division, upon written request by the operator, may grant an extension thereof for good cause shown.

Approved at Santa Fe, New Mexico, on this 1st day of April, 2002.

Lori Wrotenbery by DC

LORI WROTENBERY, Director

LW/DRC

cc: Oil Conservation Division – Aztec
State Land Office – Oil and Gas Division