Appendix A

Analytical Laboratory Certificates of Analysis for the Perchlorate Data

20100360819

CONTRACT LABORATORY
ANALYSIS REQUEST AND CHAIN OF CUSTODY

Page 1 of 1

Internal Lab

Batch No. NA

SMO Use

AR/COC 612580

Dept. No./Mail Stop:	4133/1126	Date Samples Shipped:	3/3/2010
Project/Task Manager:	Don Schofield	Carrier/Waybill No:	110779
Project Name:	Burn Site GWM	Lab Contact:	Edie Kent/803-556-8171
Record Center Code:	ER/1333/DAT	Lab Destination:	GEL
Logbook Ref. No.:	ER 058	SMO Contact/Phone:	Pam Puissant/505-844-3185
Service Order No.	CF#058-10	Send Report to SMO:	Lorraine Herrera/505-844-3199
Location	Tech Area		
Building	Room		

Project/Task No.125778.10.11.01
SMO Authorization: [signature] SMO
Contract #: PO 691436
See Bottle Order

☐ Waste Characterization
-Send preliminary/copy report to:

☐ Released by COC No.:
☑ Validation Required

Bill To: Sandia National Labs (Accounts Payable)
P.O. Box 5800 MS 0154
Albuquerque, NM 87185-0154

248343%

Reference LOV(available at SMO)

Sample No.-Fraction	ER Sample ID or Sample Location Detail	Pump Depth (ft)	ER Site No.	Date/Time(hr) Collected	Sample Matrix	Container Type	Container Volume	Preserv-ative	Collection Method	Sample Type	Parameter & Method Requested	Lab Sample ID	
088180-005	CYN-MW6	163	NA	030310\0851	GW	AG	4x1 L	4C	G	SA	TPH Diesel (SW846-8015A/B) SVOC	004	.1
088180-006	CYN-MW6	163	NA	030310\0850	GW	G	3x40 ml	HCL	G	SA	TPH Gasoline (SW846-8015A/B) VOC	005	.2
088180-018	CYN-MW6	163	NA	030310\0853	GW	P	250 ml	H2SO4	G	SA	NPN (353.2)	006	.3
088180-020	CYN-MW6	163	NA	030310\0854	GW	P	250 ml	4C	G	SA	Perchlorate (314.0)	007	.4

RMMA ☐ Yes ☑ No Ref. No.
Sample Disposal ☐ Return to Client ☑ Disposal by lab
Turnaround Time ☐ 7 Day ☐ 15 Day ☑ 30 Day
Return Samples By: ☐ Negotiated TAT

Sample Tracking Smo Use
Date Entered(mm/dd/yy)
Entered by:
QC inits:

Special Instructions/QC Requirements
EDD ☑ Yes ☐ No
Level D Package ☐ Yes ☑ No
*Send report to:
Tim Jackson/Org.4133/MS 0729/505-284-2547

No perchlorate verification analysis is required.
Last well of Burn Site GWM of 2nd Quarter

*Please list as separate report.

Abnormal Conditions on Receipt

Lab Use

Sample Team Members	Name	Signature	Init	Company/Organization/Phone/Cellular
	William J Gibson	[signature]	[initials]	Weston/4133/844-4013/239-7367
	Robert Lynch	[signature]	[initials]	Weston/4133/844-4013/250-7090
	Alfred Santillanes	[signature]	[initials]	Weston/4133/844-5130/228-0710

1.Relinquished by [signature]	Org. 4133	Date 3/3/10	Time 0925	4.Relinquished by	Org.	Date	Time
1. Received by [signature] SMO	Org. 4133	Date 3/3/10	Time 0925	4. Received by	Org.	Date	Time
2.Relinquished by [signature] SMO	Org. 4133	Date 3/3/10	Time 1155	5.Relinquished by	Org.	Date	Time
2. Received by [signature]	Org. GEL	Date 3-4-10	Time 0715	5. Received by	Drg.	Date	Time
3.Relinquished by	Org.	Date	Time	6.Relinquished by	Org.	Date	Time
3. Received by	Org.	Date	Time	6. Received by	Org.	Date	Time

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Sandia National Laboratories
Address : MS-0756, Org. 06765, Bldg. 823/Rm. 4276
1515 Eubank SE
Albuquerque, New Mexico 87123
Contact: Ms. Pamela M. Puissant
Project: **Level C, Groundwater Monitoring**

Report Date: March 31, 2010

Client Sample ID:	088180-020	Project:	SNLSGWater
Sample ID:	248343007	Client ID:	SNLS003
Matrix:	AQUEOUS		
Collect Date:	03-MAR-10 08:54		
Receive Date:	04-MAR-10	Client Desc.:	CYN-MW6
Collector:	Client	Vol. Recv.:	

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Ion Chromatography										
EPA 314.0 Perchlorate by IC "As Received"										
Perchlorate	J	0.00459	0.004	0.012	mg/L	1	MAR103/23/10	2058	962516	1

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 314.0 DOE-AL	

ATTACHMENT A

FIELD MEASUREMENT LOG FOR GROUNDWATER SAMPLE COLLECTION

Project Name:	BSG	Project No.:	
Well I.D.:	CYN-MW6	Date:	3-2-10 \ 3-3-10
Weather	Clear & Cold		
Method:	X Portable pump ____ Dedicated pump	Pump depth:	163'

PURGE MEASUREMENTS

Depth to Water (FT)	Time 24 hr	Vol. L gls	Temp °C	Ec µmho	ORP MV	pH	Flow L gls	Turb NTU	DO %	DO mg/L ~~Color and appearance~~
148.21	0802		Start							
153.88	0818	5	15.53	1354	273.5	6.86		0.57	14.3	1.42
156.74	0828	10	15.25	1346	258.1	6.93		1.12	13.3	1.33
159.57	0838	15	15.16	1351	246.9	6.94		1.73	12.5	1.25
162.41	0848	20	14.89	1340	236.8	6.94		2.75	11.9	1.20
163.03	0851	21	14.83	1339	234.2	6.95		4.50	12.5	1.24
163.04	0851	~~24~~	Well	DRY						
		~~26~~								
		~~28~~								
3/10 148.21	0827		START							
151.88	0839	2	16.63	1309	237.3	6.93		1.42	18.3	1.77
153.27	0844	4	16.46	1312	233.9	6.92		1.64	17.6	1.72
154.53	0849	6	16.27	1302	231.2	6.92		1.74	18.0	1.76
	0850		Sampling							

COC number(s): 612580

Sample number(s): 088180

~ 4.00 gal purged prior to measurement.

0809

3-3-10 0835

Purge Volume Calculations

Well Diameter

2" well: 0.16 gal/ft X____ (height of water column) = _____ gallons

4" well: 0.65 gal/ft X____ (height of water column) = _____ gallons

6" well: 1.47 gal/ft X____ (height of water column) = _____ gallons

Tubing Diameter

1/4" OD: 2.4 ml/ft X____ (length of tubing) = _____ millileters

3/8" OD: 9.7 ml/ft X____ (length of tubing) = _____ millileters

1/2" ODI: 2 1.6 ml/ft X____ (length of tubing)) = _____ millileters

20100260117

CONTRACT LABORATORY
ANALYSIS REQUEST AND CHAIN OF CUSTODY

Internal Lab

Page 1 of 1

Batch No.

SMO Use

AR/COC 612560

Dept. No./Mail Stop:	4133/1136	Date Samples Shipped:	2-17-10	Project/Task No.	125778.10.11.01
Project/Task Manager:	Don Schofield	Carrier/Waybill No.	110402	SMO Authorization:	GB
Project Name:	TA-V GWM	Lab Contact:	Edie Kent/803-556-8171	Contract #:	691436
Record Center Code:	ER/1306/DAT	Lab Destination:	GEL		
Logbook Ref. No.:	NA	SMO Contact/Phone:	Pam Puissant/505-844-3185		
Service Order No.	CFO# 012-10	Send Report to SMO:	Lorraine Herrera /505-844-3199		
Location	Tech Area				
Building	Room				

SEE BOTTLE ORDER

☐ Waste Characterization
-Send preliminary/copy report to:

☐ Released by COC No.:

☑ Validation Required

Bill To: Sandia National Labs (Accounts Payable)
P.O. Box 5800 MS 0154
Albuquerque, NM 87185-0154

2470729.

Reference LOV(available at SMO)

Sample No.-Fraction	ER Sample ID or Sample Location Detail	Depth (ft)	ER Site No.	Date/Time(hr) Collected	Sample Matrix	Container Type	Container Volume	Preserv-ative	Collection Method	Sample Type	Parameter & Method Requested	Lab Sample ID	
088141-001	LWDS-MW1	513.5	NA	02/17/10 0830	GW	G	3x40 ml	HCL	G	SA	VOC (SW846/8260B)	012	.1
088141-018	LWDS-MW1	513.5	NA	02/17/10 0831	GW	P	250 ml	H2SO4	G	SA	NPN (353.2)	013	.2
088141-020	LWDS-MW1	513.5	NA	02/17/10 0832	GW	P	250 ml	4C	G	SA	Perchlorate (314.0)	014	.3
088142-001	TAV-TB14	NA	NA	02/17/10 0830	DIW	G	3x40 ml	HCL	G	TB	VOC (SW846/8260B) field QC	015	.1

RMMA ☐ Yes ☑ No Ref. No.

Sample Disposal ☐ Return to Client ☑ Disposal by lab

Turnaround Time ☐ 7 Day ☐ 15 Day ☑ 30 Day

Return Samples By: ☐ Negotiated TAT

Sample Tracking Smo Use
Date Entered(mm/dd/yy)
Entered by
QC Inits

Special Instructions/QC Requirements
EDD ☑ Yes ☐ No
Level D Package ☐ Yes ☑ No
*Send report to:
Tim Jackson/ORG. 4133/MS.0756/ 284-2547

Abnormal Conditions on Receipt

Lab Use

Sample Team Members	Name	Signature	Init	Company/Organization/Phone/Cellular
	Robert Lynch	Robt Lynch	RL	Weston/4133/844-4013/250-7090
	Alfred Santillanes	[signature]	AS	Weston/4133/844-5130/228-0710

*Please list as separate report.

1.Relinquished by	Robt Lynch	Org. 4133	Date 2-17-10	Time 0915	4.Relinquished by	Org.	Date	Time
1. Received by	[signature]	Org. 4139	Date 2-17-10	Time 0915	4. Received by	Org.	Date	Time
2.Relinquished by	[signature]	Org. 4139	Date 2-17-10	Time 1200	5.Relinquished by	Org.	Date	Time
2. Received by	[signature]	Org. GEL	Date 2-18-10	Time 0845	5. Received by	Org.	Date	Time
3.Relinquished by		Org.	Date	Time	6.Relinquished by	Org.	Date	Time
3. Received by		Org.	Date	Time	6. Received by	Org.	Date	Time

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Sandia National Laboratories
Address : MS-0756, Org. 06765, Bldg. 823/Rm. 4276
1515 Eubank SE
Albuquerque, New Mexico 87123
Contact: Ms. Pamela M. Puissant
Project: **Level C, Groundwater Monitoring**

Report Date: March 13, 2010

Client Sample ID:	088141-020	Project:	SNLSGWater
Sample ID:	247072014	Client ID:	SNLS003
Matrix:	AQUEOUS		
Collect Date:	17-FEB-10 08:32		
Receive Date:	18-FEB-10	Client Desc.:	LWDS-MW1
Collector:	Client	Vol. Recv.:	

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Ion Chromatography										
EPA 314.0 Perchlorate by IC "As Received"										
Perchlorate	U	ND	0.004	0.012	mg/L	1	MAR103/04/10	1531	959791	1

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 314.0 DOE-AL	

ATTACHMENT A

FIELD MEASUREMENT LOG FOR GROUNDWATER SAMPLE COLLECTION

80% = 503.35'

Project Name: TAV-GWM	Project No.:
Well I.D.: LWDS-MW1	Date: 2-16-10 | 2-17-10
Weather	
Method: X Portable pump _____ Dedicated pump	Pump depth: 513.5'

PURGE MEASUREMENTS

Depth to Water (FT)	Time 24 hr	Vol. L (gls)	Temp °C	Ec µmho	ORP MV	pH	Flow L gls	Turb NTU	DO %	DO mg/L ~~Color and appearance~~
499.23	0802		START							
507.89	0827	4	17.69	710	228.8	7.20		0.40	79.1	7.53
509.79	0833	6	18.05	701	225.8	7.23		0.53	~~87~~ 76.9	7.30
511.79	0839	8	17.90	703	225.1	7.24		0.66	79.1	7.49
512.11	0842	9	17.65	708	224.6	7.24		0.67	78.6	7.48
	0842		well DRY							
499.29	0803		START							
505.00	0818	1	16.53	724	233.3	7.14		0.23	82.7	8.04
505.97	0822	2	17.16	727	233.3	7.16		0.29	76.5	7.36
506.65	0825	3	17.45	729	233.6	7.18		0.56	76.8	7.34
507.60	0829	4	17.59	729	234.7	7.19		0.69	75.6	7.31
	0830		sampling							

COC number(s): 612560

Sample number(s): 088141

~4.00 gals purged from tubing 0816

2-17 0816

Purge Volume Calculations

Well Diameter

2" well: 0.16 gal/ft X____ (height of water column) = _____ gallons

4" well: 0.65 gal/ft X____ (height of water column) = _____ gallons

6" well: 1.47 gal/ft X____ (height of water column) = _____ gallons

Tubing Diameter

1/4" OD: 2.4 ml/ft X____ (length of tubing) = _____ millileters

3/8" OD: 9.7 ml/ft X____ (length of tubing) = _____ millileters

1/2" OD!: 2 1.6 ml/ft X____ (length of tubing)) = _____ millileters

CONTRACT LABORATORY
ANALYSIS REQUEST AND CHAIN OF CUSTODY

Internal Lab

Batch No. N/A

Page 1 of 1

AR/COC 612604

Dept. No./Mail Stop:	4133/1126	Date Samples Shipped:	3/1/10	Project/Task No.	125778.10.11.01
Project/Task Manager:	Don Schofield	Carrier/Waybill No.	110686	SMO Authorization:	[illegible]
Project Name:	TAG-GWM	Lab Contact:	Edie Kent/803-556-8171	Contract #:	PO 691436
Record Center Code:	ER/1306/DAT	Lab Destination:	GEL		
Logbook Ref. No.:	NA	SMO Contact/Phone:	Pam Puissant/505-844-3185		SEE BOTTLE ORDER
Service Order No.	CFO# 010-10	Send Report to SMO:	Lorraine Herrera /505-844-3199		
Location	Tech Area				
Building	Room				

☐ Waste Characterization
-Send preliminary/copy report to:

☐ Released by COC No.:
☑ Validation Required

Bill To: Sandia National Labs (Accounts Payable)
P.O. Box 5800 MS 0154
Albuquerque, NM 87185-0154 248347 1.

Reference LOV(available at SMO)

Sample No.-Fraction	ER Sample ID or Sample Location Detail	Depth (ft)	ER Site No.	Date/Time(hr) Collected	Sample Matrix	Container Type	Container Volume	Preserv-ative	Collection Method	Sample Type	Parameter & Method Requested	Lab Sample ID
088220-020	TA1-W-03	358	NA	02/26/10 0930	GW	P	250 ml	4C	G	SA	Perchlorate (314.0)	001

RMMA ☐ Yes ☑ No Ref. No.

Sample Disposal ☐ Return to Client ☑ Disposal by lab

Turnaround Time ☐ 7 Day ☐ 15 Day ☑ 30 Day

Return Samples By: ☐ Negotiated TAT

Sample Tracking Smo Use
Date Entered(mm/dd/yy)
Entered by:
QC Inits.

Special Instructions/QC Requirements
EDD ☑ Yes ☐ No
Level D Package ☐ Yes ☑ No
*Send report to:
Tim Jackson/QRG. 4133/MS 0756/ 284-2547

Abnormal Conditions on Receipt

Lab Use

Sample Team Members	Name	Signature	Init	Company/Organization/Phone/Cellular
	Robert Lynch	[signature]	RL	Weston/4133/844-4013/250-7090
	Alfred Santillanes	[signature]	[illegible]	Weston/4133/844-5130/228-0710
	William J. Gibson	[signature]	[illegible]	Weston/4133/844-4013/239-7367

*Please list as separate report.

1.Relinquished by [signature]	Org. 4133	Date 2/26/10	Time 0955	4.Relinquished by	Org.	Date	Time
1. Received by [signature] SMO	Org. 4133	Date 2/26/10	Time 0955	4. Received by	Org.	Date	Time
2.Relinquished by [signature] SMO	Org. 4133	Date 3/1/10	Time 0650	5.Relinquished by	Org.	Date	Time
2. Received by [signature]	Org. GEL	Date 3-2-10	Time 0730	5. Received by	Org.	Date	Time
3.Relinquished by	Org.	Date	Time	6.Relinquished by	Org.	Date	Time
3. Received by	Org.	Date	Time	6. Received by	Org.	Date	Time

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Certificate of Analysis

Company : Sandia National Laboratories
Address : MS-0756, Org. 06765, Bldg. 823/Rm. 4276
1515 Eubank SE
Albuquerque, New Mexico 87123
Contact: Ms. Pamela M. Puissant
Project: **Level C, Groundwater Monitoring**

Report Date: March 31, 2010

Client Sample ID:	088220-020	Project:	SNLSGWater
Sample ID:	248347001	Client ID:	SNLS003
Matrix:	AQUEOUS		
Collect Date:	26-FEB-10 09:30		
Receive Date:	02-MAR-10	Client Desc.:	TA1-W-03
Collector:	Client	Vol. Recv.:	

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Ion Chromatography										
EPA 314.0 Perchlorate by IC "As Received"										
Perchlorate	U	ND	0.004	0.012	mg/L	1	MAR1 03/23/10	2158	962516	1

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 314.0 DOE-AL	

ATTACHMENT A

FIELD MEASUREMENT LOG FOR GROUNDWATER SAMPLE COLLECTION

Project Name:	TAG	Project No.:	
Well I.D.:	TA1-W-03	Date:	02-26-2010
Weather	Clear & Cold		
Method:	X Portable pump ____ Dedicated pump	Pump depth:	359'

PURGE MEASUREMENTS

Depth to Water (FT)	Time 24 hr	Vol. L (gls)	Temp °C	Ec µmho	ORP MV	pH	Flow L gls	Turb NTU	DO %	DO mg/L ~~Color and appearance~~
346.75	0758		Start							
347.98	0824	5	13.45	1622	222.3	7.55		1.35	76.6	7.95
348.09	0838	10	13.58	1622	207.5	7.56		1.20	73.2	7.57
348.19	0851	15	14.06	1624	207.2	7.52		1.08	77.5	7.94
348.26	0904	20	14.18	1624	207.4	7.51		0.99	76.7	7.83
348.27	0909	22	14.13	1623	208.5	7.50		0.94	77.5	7.92
348.30	0915	24	14.08	1623	208.9	7.51		0.93	77.5	7.93
348.30	0920	26	14.06	1624	209.2	7.50		0.84	77.4	7.92
348.30	0926	28	14.15	1625	209.9	7.50		0.77	77.5	7.92
348.30	0931	30	14.20	1626	209.6	7.50		0.74	77.3	7.89
	0932		sampling							

COC number(s): 612604

Sample number(s): 088220

2 4.00 gal. purged prior measurement.

0811

Purge Volume Calculations

Well Diameter

2" well: 0.16 gal/ft X____ (height of water column) = _____ gallons

4" well: 0.65 gal/ft X____ (height of water column) = _____ gallons

6" well: 1.47 gal/ft X____ (height of water column) = _____ gallons

Tubing Diameter

1/4" OD: 2.4 ml/ft X____ (length of tubing) = _____ millileters

3/8" OD: 9.7 ml/ft X____ (length of tubing) = _____ millileters

1/2" ODl: 2 1.6 ml/ft X____ (length of tubing)) = _____ millileters

CONTRACT LABORATORY
ANALYSIS REQUEST AND CHAIN OF CUSTODY

Internal Lab

Batch No. N/A

Page 1 of 1

AR/COC 612513

SMO Use

Dept. No./Mail Stop:	4133/1126	Date Samples Shipped:	1/11/10	Project/Task No.	125778.10.11.01
Project/Task Manager:	Don Schofield	Carrier/Waybill No.	10 8988	SMO Authorization:	
Project Name:	TAG-GWM	Lab Contact:	Edie Kent/805-556-8171	Contract #:	PO 691436
Record Center Code:	ER/1306/DAT	Lab Destination:	GEL		
Logbook Ref. No.:	NA	SMO Contact/Phone:	Pam Puissant/505-844-3185		
Service Order No.	CFO# 010-10	Send Report to SMO:	Lorraine Herrera /505-844-3199		
Location	Tech Area				
Building	Room				

SEE BOTTLE ORDER

☐ Waste Characterization
-Send preliminary/copy report to:

☐ Released by COC No.:
☑ Validation Required

Bill To: Sandia National Labs (Accounts Payable)
P.O. Box 5800 MS 0154
Albuquerque, NM 87185-0154

244469

Reference LOV(available at SMO)

Sample No.-Fraction	ER Sample ID or Sample Location Detail	Depth (ft)	ER Site No.	Date/Time(hr) Collected	Sample Matrix	Container Type	Container Volume	Preservative	Collection Method	Sample Type	Parameter & Method Requested	Lab Sample ID
088014-020	TA1-W-06	319		01/11/10 1011	GW	P	250 ml	4C	G	SA	Perchlorate (314.0)	001

RMMA ☐ Yes ☑ No Ref. No.

Sample Disposal ☐ Return to Client ☑ Disposal by lab

Turnaround Time ☐ 7 Day ☐ 15 Day ☑ 30 Day

Return Samples By: ☐ Negotiated TAT

Sample Tracking: Smo Use
Date Entered(mm/dd/yy):
Entered by:
QC Inits:

Special Instructions/QC Requirements
EDD ☑ Yes ☐ No
Level D Package ☐ Yes ☑ No
*Send report to:
Tim Jackson/ORG. 4133/MS 0756/ 284-2547

*Please list as separate report.

Abnormal Conditions on Receipt

Lab Use

Sample Team Members	Name	Signature	Init	Company/Organization/Phone/Cellular
	Robert Lynch	Robert Lynch	RL	Weston/4133/844-4013/250-7090
	Alfred Santillanes	Alfred Santillanes	AS	Weston/4133/844-5130/228-0710

1.Relinquished by	Robert Lynch	Org. 4133	Date 1/11/10	Time 1030	4.Relinquished by	Org.	Date	Time
1. Received by	[illegible]	Smo	Org. 4133 Date 1/11/10	Time 1030	4. Received by	Org.	Date	Time
2.Relinquished by	[illegible]	Smo	Org. 4133 Date 1/11/10	Time 1200	5.Relinquished by	Org.	Date	Time
2. Received by	[illegible]		Org. GEL Date 1-12-10	Time 0730	5. Received by	Org.	Date	Time
3.Relinquished by		Org.	Date	Time	6.Relinquished by	Org.	Date	Time
3. Received by		Org.	Date	Time	6. Received by	Org.	Date	Time

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Sandia National Laboratories
Address : MS-0756, Org. 06765, Bldg. 823/Rm. 4276
1515 Eubank SE
Albuquerque, New Mexico 87123
Contact: Ms. Pamela M. Puissant
Project: **Level C, Groundwater Monitoring**

Report Date: February 1, 2010

Client Sample ID:	088014-020	Project:	SNLSGWater
Sample ID:	244469001	Client ID:	SNLS003
Matrix:	AQUEOUS		
Collect Date:	11-JAN-10 10:11		
Receive Date:	12-JAN-10	Client Desc.:	TA1-W-06
Collector:	Client	Vol. Recv.:	

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Ion Chromatography										
EPA 314.0 Perchlorate by IC "As Received"										
Perchlorate	U	ND	0.004	0.012	mg/L	1	MAR101/19/10	1411	942144	1

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 314.0 DOE-AL	

ATTACHMENT A

FIELD MEASUREMENT LOG FOR GROUNDWATER SAMPLE COLLECTION

Project Name: TAG	Project No.:
Well I.D.: TA 1-W-06	Date: 1-11-10
Weather	
Method: X Portable pump _____ Dedicated pump	Pump depth: 319'

PURGE MEASUREMENTS

Depth to Water (FT)	Time 24 hr	Vol. L (gls)	Temp °C	Ec µmho	ORP MV	pH	Flow L gls	Turb NTU	DO %	DO mg/L ~~Color and appearance~~
305.70	0817		START							
306.02	0902	10	15.42	820	234.0	7.36		0.81	82.7	8.25
306.02	0916	15	16.04	828	223.2	7.36		0.94	84.1	8.29
306.02	0932	20	16.63	824	218.8	7.36		0.95	84.8	8.24
306.01	0948	25	17.05	826	216.2	7.36		0.61	85.5	8.24
306.00	0955	27	17.23	826	215.5	7.36		0.58	85.3	8.19
305.98	1003	29	17.36	826	215.5	7.36		0.55	85.3	8.16
305.98	1007	30	17.44	826	215.1	7.36		0.50	85.0	8.11
305.98	1011	31	17.39	826	215.1	7.36		0.52	86.1	8.20
	1011		Sampling							

COC number(s): 612513

Sample number(s): 088014

~4.00 gals purged from tubing 0832

Purge Volume Calculations

Well Diameter

2" well: 0.16 gal/ft X____ (height of water column) = _____ gallons

4" well: 0.65 gal/ft X____ (height of water column) = _____ gallons

6" well: 1.47 gal/ft X____ (height of water column) = _____ gallons

Tubing Diameter

1/4" OD: 2.4 ml/ft X____ (length of tubing) = _____ milliliters

3/8" OD: 9.7 ml/ft X____ (length of tubing) = _____ milliliters

1/2" OD: 21.5 ml/ft X____ (length of tubing)) = _____ milliliters

CONTRACT LABORATORY
ANALYSIS REQUEST AND CHAIN OF CUSTODY

Internal Lab

Page 1 of 1

Batch No. N/A

SMO Use

AR/COC 612514

Dept. No./Mail Stop:	4133/1126	Date Samples Shipped:	1/12/10	Project/Task No. 125778.10.11.01	☐ Waste Characterization -Send preliminary/copy report to:
Project/Task Manager:	Don Schofield	Carrier/Waybill No.	108989	SMO Authorization:	
Project Name:	TAG-GWM	Lab Contact:	Edie Kent/803-556-8171	Contract #: PO 691436	
Record Center Code:	ER/1306/DAT	Lab Destination:	GEL	SEE BOTTLE ORDER	☐ Released by COC No.: ☑ Validation Required
Logbook Ref. No.:	NA	SMO Contact/Phone:	Pam Puissant/505-844-3185		
Service Order No.	CFO# 010-10	Send Report to SMO:	Lorraine Herrera /505-844-3199		Bill To: Sandia National Labs (Accounts Payable) P.O. Box 5800 MS 0154 Albuquerque, NM 87185-0154 244469.
Location	Tech Area				
Building	Room				

Reference LOV(available at SMO)

Sample No.-Fraction	ER Sample ID or Sample Location Detail	Depth (ft)	ER Site No.	Date/Time(hr) Collected	Sample Matrix	Container Type	Container Volume	Preserv-ative	Collection Method	Sample Type	Parameter & Method Requested	Lab Sample ID
088015-020	TA1-W-08	321	N/A	01/12/10 0956	GW	P	250 ml	4C	G	SA	Perchlorate (314.0)	002

RMMA ☐ Yes ☑ No Ref. No.

Sample Disposal ☐ Return to Client ☑ Disposal by lab

Turnaround Time ☐ 7 Day ☐ 15 Day ☑ 30 Day

Return Samples By: ☐ Negotiated TAT

Sample Tracking — Smo Use: Date Entered(mm/dd/yy); Entered by; QC Inits.

Special Instructions/QC Requirements: EDD ☑ Yes ☐ No; Level D Package ☐ Yes ☑ No

*Send report to: Tim Jackson/ORG. 4133/MS 0756/ 284-2547

*Please list as separate report.

Abnormal Conditions on Receipt — Lab Use

Sample Team Members	Name	Signature	Init	Company/Organization/Phone/Cellular
	Robert Lynch		RL	Weston/4133/844-4013/250-7090
	Alfred Santillanes		AS	Weston/4133/844-5130/228-0710

1.Relinquished by		Org. 4133	Date 1/12/10	Time 1015	4.Relinquished by	Org.	Date	Time
1. Received by	SMO	Org. 4133	Date 1/12/10	Time 1015	4. Received by	Org.	Date	Time
2.Relinquished by	SMO	Org. 4233	Date 1/12/10	Time 1135	5.Relinquished by	Org.	Date	Time
2. Received by		Org.	Date 1/13/10	Time 0855	5. Received by	Org.	Date	Time
3.Relinquished by		Org.	Date	Time	6.Relinquished by	Org.	Date	Time
3. Received by		Org.	Date	Time	6. Received by	Org.	Date	Time

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Sandia National Laboratories
Address : MS-0756, Org. 06765, Bldg. 823/Rm. 4276
1515 Eubank SE
Albuquerque, New Mexico 87123
Contact: Ms. Pamela M. Puissant
Project: **Level C, Groundwater Monitoring**

Report Date: February 1, 2010

Client Sample ID:	088015-020	Project:	SNLSGWater
Sample ID:	244469002	Client ID:	SNLS003
Matrix:	AQUEOUS		
Collect Date:	12-JAN-10 09:56		
Receive Date:	13-JAN-10	Client Desc.:	TA1-W-08
Collector:	Client	Vol. Recv.:	

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Ion Chromatography										
EPA 314.0 Perchlorate by IC "As Received"										
Perchlorate	U	ND	0.004	0.012	mg/L	1	MAR101/19/10	1522	942144	1

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 314.0 DOE-AL	

ATTACHMENT A

FIELD MEASUREMENT LOG FOR GROUNDWATER SAMPLE COLLECTION

Project Name: TAG	Project No.:
Well I.D.: TA1-W-08	Date: 1-12-10
Weather	
Method: X Portable pump _____ Dedicated pump	Pump depth: 321'

PURGE MEASUREMENTS

Depth to Water (FT)	Time 24 hr	Vol. L gls	Temp °C	Ec µmho	ORP MV	pH	Flow L gls	Turb NTU	DO %	DO mg/L ~~Color and appearance~~
308.71	0803		START							
308.71	0832	5	14.86	1837	236.7	7.09		4.63	76.6	7.70
308.71	0848	10	15.50	1836	225.9	7.18		8.41	77.2	7.68
308.71	0905	15	16.47	1845	220.6	7.20		2.76	78.5	7.63
308.71	0924	20	16.90	1842	217.5	7.20		0.97	78.9	7.60
308.71	0933	22	16.95	1841	217.7	7.21		0.80	79.2	7.62
308.71	0942	24	16.98	1840	218.4	7.21		0.58	78.8	7.58
308.71	0951	26	17.38	1841	218.8	7.21		0.48	79.8	7.61
308.71	0956	27	17.33	1841	218.9	7.21		0.46	78.6	7.49
	0956		sampling							

COC number(s): 612514

Sample number(s): 088015

~4.00 gals purged from tubing 0817

Purge Volume Calculations

Well Diameter

2" well: 0.16 gal/ft X____ (height of water column) = _____ gallons

4" well: 0.65 gal/ft X____ (height of water column) = _____ gallons

6" well: 1.47 gal/ft X____ (height of water column) = _____ gallons

Tubing Diameter

1/4" OD: 2.4 ml/ft X____ (length of tubing) = _____ milliliters

3/8" OD: 9.7 ml/ft X____ (length of tubing) = _____ milliliters

1/2" OD: 21.6 ml/ft X____ (length of tubing)) = _____ milliliters

20100158538

CONTRACT LABORATORY
ANALYSIS REQUEST AND CHAIN OF CUSTODY

Page 1 of 1

Internal Lab

Batch No. N/A

SMO Use

AR/COC 612515

Dept. No./Mail Stop:	4133/1126	Date Samples Shipped:	1/13/10	Project/Task No. 125778.10.11.01	☐ Waste Characterization -Send preliminary/copy report to:
Project/Task Manager:	Don Schofield	Carrier/Waybill No.	1/09/54	SMO Authorization:	
Project Name:	TAG-GWM	Lab Contact:	Edie Kent/803-556-8171	Contract #: PO 691436	
Record Center Code:	ER/1306/DAT	Lab Destination:	GEL		☐ Released by COC No.: ☑ Validation Required
Logbook Ref. No.:	NA	SMO Contact/Phone:	Pam Puissant/505-844-3185	500 BOTTLE ORDER	
Service Order No.	CFO# 010-10	Send Report to SMO:	Lorraine Herrera /505-844-3199		Bill To: Sandia National Labs (Accounts Payable) P.O. Box 5800 MS 0154 Albuquerque, NM 87185-0154 244469
Location	Tech Area				
Building	Room				

Reference LOV(available at SMO)

Sample No.-Fraction	ER Sample ID or Sample Location Detail	Depth (ft)	ER Site No.	Date/Time(hr) Collected	Sample Matrix	Container Type	Container Volume	Preserv-ative	Collection Method	Sample Type	Parameter & Method Requested	Lab Sample ID
088016-001	TA2-W-01	334	N/A	01/13/10 1005	GW	G	3x40 ml	HCL	G	SA	VOC (SW846/8260B)	003 .2
088016-018	TA2-W-01	334		01/13/10 1006	GW	P	250 ml	H2SO4	G	SA	NPN (353.2)	004 .3
088016-020	TA2-W-01	334		01/13/10 1007	GW	P	250 ml	4C	G	SA	Perchlorate (314.0)	005 .1
088017-001	TAG-TB1	NA		01/13/10 1005	DIW	G	3x40 ml	HCL	G	TB	VOC (SW846/8260B)	006 .2

RMMA ☐ Yes ☑ No Ref. No.

Sample Disposal ☐ Return to Client ☑ Disposal by lab

Turnaround Time ☐ 7 Day ☐ 15 Day ☑ 30 Day

Return Samples By: ☐ Negotiated TAT

Sample Tracking — SMO Use: Date Entered(mm/dd/yy): Entered by: QC Inits:

Special Instructions/QC Requirements: EDD ☑ Yes ☐ No; Level D Package ☐ Yes ☑ No

*Send report to: Tim Jackson/ORG. 4133/MS 0756/ 284-2547

*Please list as separate report.

Abnormal Conditions on Receipt: Lab Use

Sample Team Members	Name	Signature	Init	Company/Organization/Phone/Cellular
	Robert Lynch		RL	Weston/4133/844-4013/250-7090
	Alfred Santillanes			Weston/4133/844-5130/228-0710

1.Relinquished by	Org. 4133	Date 1/13/10	Time 1030	4.Relinquished by	Org.	Date	Time
1. Received by	Org. 4133	Date 1/13/10	Time 1030	4. Received by	Org.	Date	Time
2.Relinquished by	Org. 4133	Date 1/13/10	Time 1145	5.Relinquished by	Org.	Date	Time
2. Received by	Org. GEL	Date 1-14-10	Time 07:40	5. Received by	Org.	Date	Time
3.Relinquished by	Org.	Date	Time	6.Relinquished by	Org.	Date	Time
3. Received by	Org.	Date	Time	6. Received by	Org.	Date	Time

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Sandia National Laboratories
Address : MS-0756, Org. 06765, Bldg. 823/Rm. 4276
1515 Eubank SE
Albuquerque, New Mexico 87123
Contact: Ms. Pamela M. Puissant
Project: **Level C, Groundwater Monitoring**

Report Date: February 1, 2010

Client Sample ID:	088016-020	Project:	SNLSGWater
Sample ID:	244469005	Client ID:	SNLS003
Matrix:	AQUEOUS		
Collect Date:	13-JAN-10 10:07		
Receive Date:	14-JAN-10	Client Desc.:	TA2-W-01
Collector:	Client	Vol. Recv.:	

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Ion Chromatography										
EPA 314.0 Perchlorate by IC "As Received"										
Perchlorate	U	ND	0.004	0.012	mg/L	1	MAR101/19/10	1546	942144	1

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 314.0 DOE-AL	

ATTACHMENT A

FIELD MEASUREMENT LOG FOR GROUNDWATER SAMPLE COLLECTION

Project Name: TAG	Project No.:
Well I.D.: TA2-W-01	Date: 1-13-10
Weather	
Method: X Portable pump ____ Dedicated pump	Pump depth: 334' 333'

PURGE MEASUREMENTS

0829 restart

Depth to Water (FT)	Time 24 hr	Vol. L (gls)	Temp °C	Ec µmho	ORP MV	pH	Flow L gls	Turb NTU	DO %	DO mg/L ~~Color and appearance~~
325.23	0805		START							
326.86	0859	5	13.99	574	258.3	7.35		21.6	78.7	8.09
327.16	0915	10	15.59	595	252.5	7.41		21.0	81.2	8.08
327.40	0932	15	16.42	601	248.3	7.40		7.18	75.2	7.34
327.46	0940	17	16.53	603	247.4	7.40		5.65	80.1	7.71
327.51	0948	19	16.71	602	246.2	7.40		3.52	82.6	8.03
327.51	0952	20	16.86	603	245.2	7.41		1.95	82.8	8.01
327.51	0956	21	16.90	602	245.2	7.41		1.93	81.6	7.78
327.51	1001	22	16.98	603	244.9	7.40		1.90	83.4	8.02
327.57	1005	23	16.95	603	244.8	7.40		1.88	83.5	8.07
	1005		sampling							

COC number(s): 612515

Sample number(s): 088016

Purge Volume Calculations

~4.00 gals purged from tubing 0840

Well Diameter

2" well: 0.16 gal/ft X____ (height of water column) = _____ gallons

4" well: 0.65 gal/ft X____ (height of water column) = _____ gallons

6" well: 1.47 gal/ft X____ (height of water column) = _____ gallons

Tubing Diameter

1/4" OD: 2.4 ml/ft X____ (length of tubing) = _____ milliliters

3/8" OD: 9.7 ml/ft X____ (length of tubing) = _____ milliliters

1/2" OD: 21.6 ml/ft X____ (length of tubing)) = _____ milliliters

* Hit sediment @ bottom of well ~334', pulled pump cleaned and lowered again restart @0829

CONTRACT LABORATORY
ANALYSIS REQUEST AND CHAIN OF CUSTODY

Page 1 of 1

Internal Lab

Batch No. N/A

SMO Use

AR/COC **612517**

Dept. No./Mail Stop:	4133/1126	Date Samples Shipped:	1/14/2010	Project/Task No. 125778.10.11.01	☐ Waste Characterization -Send preliminary/copy report to:
Project/Task Manager:	Don Schofield	Carrier/Waybill No.	109203	SMO Authorization: [signature] SMO	
Project Name:	TAG-GWM	Lab Contact:	Edie Kent/803-556-8171	Contract #: PO 691436	☐ Released by COC No.:
Record Center Code:	ER/1306/DAT	Lab Destination:	GEL	SEE BOTTLE ORDER	☑ Validation Required
Logbook Ref. No.:	NA	SMO Contact/Phone:	Pam Puissant/505-844-3185		Bill To: Sandia National Labs (Accounts Payable)
Service Order No.	CFO# 010-10	Send Report to SMO:	Lorraine Herrera /505-844-3199		P.O. Box 5800 MS 0154
Location	Tech Area				Albuquerque, NM 87185-0154
Building	Room				

Reference LOV(available at SMO)

Sample No.-Fraction	ER Sample ID or Sample Location Detail	Depth (ft)	ER Site No.	Date/Time(hr) Collected	Sample Matrix	Container Type	Container Volume	Preserv-ative	Collection Method	Sample Type	Parameter & Method Requested	Lab Sample ID	
088020-001	TA2-W-27	297	N/A	011410\1013	GW	G	3x40 ml	HCL	G	SA	VOC (SW846/8260B)	007	.2
088020-018	TA2-W-27	297		011410\1015	GW	P	250 ml	H2SO4	G	SA	NPN (353.2)	008	.3
088020-020	TA2-W-27	297		011410\1016	GW	P	250 ml	4C	G	SA	Perchlorate (314.0)	009	.1
088021-001	TA2-W-27	297		011410\1013	GW	G	3x40 ml	HCL	G	DU	VOC (SW846/8260B) FRC	010	.2
088021-018	TA2-W-27	297		011410\1015	GW	P	250 ml	H2SO4	G	DU	NPN (353.2) FRC	011	.3
088021-020	TA2-W-27	297		011410\1016	GW	P	250 ml	4C	G	DU	Perchlorate (314.0) FRC	012	.1
088022-001	TAG-TB3	NA		011410\1013	DIW	G	3x40 ml	HCL	G	TB	VOC (SW846/8260B) FRC	013	.2

RMMA	☐ Yes ☑ No Ref. No.	Sample Tracking	Smo Use
Sample Disposal	☐ Return to Client ☑ Disposal by lab	Date Entered(mm/dd/yy)	
Turnaround Time	☐ 7 Day ☐ 15 Day ☑ 30 Day	Entered by	
Return Samples By:	☐ Negotiated TAT	QC Inits	

Special Instructions/QC Requirements
EDD ☑ Yes ☐ No
Level D Package ☐ Yes ☑ No
*Send report to:
Tim Jackson/ORG. 4133/MS 0756/ 284-2547
*Please list as separate report.

Abnormal Conditions on Receipt

Lab Use

Sample Team Members	Name	Signature	Init	Company/Organization/Phone/Cellular
	Robert Lynch	[signature]	RL	Weston/4133/844-4013/250-7090
	Alfred Santillanes	[signature]	AS	Weston/4133/844-5130/228-0710
	William J. Gibson	[signature]	WJG	Weston/4133/844-4013/239-7367

1.Relinquished by	[signature]	Org. 4133	Date 1/14/2010	Time 1038	4.Relinquished by	Org.	Date	Time
1. Received by	[signature] SMO	Org. 4133	Date 1/14/2010	Time 1038	4. Received by	Org.	Date	Time
2.Relinquished by	[signature] SMO	Org. 4133	Date 1/14/2010	Time 1200	5.Relinquished by	Org.	Date	Time
2. Received by	[signature]	Org.	Date 1/15/10	Time 0955	5. Received by	Org.	Date	Time
3.Relinqulshed by		Org.	Date	Time	6.Relinquished by	Org.	Date	Time
3. Received by		Org.	Date	Time	6. Received by	Org.	Date	Time

GEL LABORATORIES LLC

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Certificate of Analysis

Company : Sandia National Laboratories
Address : MS-0756, Org. 06765, Bldg. 823/Rm. 4276
1515 Eubank SE
Albuquerque, New Mexico 87123
Contact: Ms. Pamela M. Puissant
Project: **Level C, Groundwater Monitoring**

Report Date: February 1, 2010

Client Sample ID:	088020-020	Project:	SNLSGWater
Sample ID:	244469009	Client ID:	SNLS003
Matrix:	AQUEOUS		
Collect Date:	14-JAN-10 10:16		
Receive Date:	15-JAN-10	Client Desc.:	TA2-W-27
Collector:	Client	Vol. Recv.:	

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Ion Chromatography										
EPA 314.0 Perchlorate by IC "As Received"										
Perchlorate	U	ND	0.004	0.012	mg/L	1	MAR101/19/10	1610	942144	1

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 314.0 DOE-AL	

GEL LABORATORIES LLC

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Certificate of Analysis

Company : Sandia National Laboratories
Address : MS-0756, Org. 06765, Bldg. 823/Rm. 4276
1515 Eubank SE
Albuquerque, New Mexico 87123
Contact: Ms. Pamela M. Puissant
Project: **Level C, Groundwater Monitoring**

Report Date: February 1, 2010

Client Sample ID:	088021-020	Project:	SNLSGWater
Sample ID:	244469012	Client ID:	SNLS003
Matrix:	AQUEOUS		
Collect Date:	14-JAN-10 10:16		
Receive Date:	15-JAN-10	Client Desc.:	TA2-W-27
Collector:	Client	Vol. Recv.:	

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Ion Chromatography										
EPA 314.0 Perchlorate by IC "As Received"										
Perchlorate	U	ND	0.004	0.012	mg/L	1	MAR1 01/19/10	1633	942144	1

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 314.0 DOE-AL	

ATTACHMENT A

FIELD MEASUREMENT LOG FOR GROUNDWATER SAMPLE COLLECTION

Project Name:	TAG	Project No.:	
Well I.D.:	TA2-W-27	Date:	1-14-10
Weather	Cloudy & Damp		
Method:	X Portable pump ____ Dedicated pump	Pump depth:	297'

PURGE MEASUREMENTS

Depth to Water (FT)	Time 24 hr	Vol. L (gls)	Temp °C	Ec µmho	ORP MV	pH	Flow L gls	Turb NTU	DO %	DO mg/L ~~Color and appearance~~
277.53	0803			start						
278.69	0838	10	15.45	802	237.7	7.33		0.93	89.6	8.94
278.45	0852	15	14.96	801	233.6	7.35		0.72	89.4	8.96
278.44	0906	20	15.18	801	231.5	7.35		0.76	87.5	8.77
278.44	0921	25	15.47	802	229.8	7.35		0.73	90.7	9.04
278.43	0936	30	15.56	802	228.7	7.36		0.66	89.0	8.85
278.42	0952	35	15.97	800	227.7	7.36		0.67	67.0	6.60
278.41	0958	37	15.88	800	227.6	7.35		0.56	70.1	6.68
278.40	1006	39	16.15	800	226.6	7.35		0.39	71.6	6.70
278.40	1013	41	16.00	799	226.5	7.36		0.40	72.6	7.00
	1013		sampling							

COC number(s): 612517

Sample number(s): 088020, 088021

~ 4.00 gal. purged prior to measurements 0815

Purge Volume Calculations

Well Diameter

2" well: 0.16 gal/ft X____ (height of water column) = _____ gallons

4" well: 0.65 gal/ft X____ (height of water column) = _____ gallons

6" well: 1.47 gal/ft X____ (height of water column) = _____ gallons

Tubing Diameter

1/4" OD: 2.4 ml/ft X____ (length of tubing) = _____ milliliters

3/8" OD: 9.7 ml/ft X____ (length of tubing) = _____ milliliters

1/2" OD: 2 1.6 ml/ft X____ (length of tubing)) = _____ milliliters

Appendix B

Data Validation Sample Findings Summary Sheets for the Perchlorate Data

ANALYTICAL QUALITY ASSOCIATES, INC.

616 Maxine NE
Albuquerque, NM 87123
505-299-5201
www.aqainc.net

Memorandum

Date: February 23, 2010

To: File

From: Kevin Lambert

Subject: Inorganic Data Review and Validation – SNL
Site: TAG GWM
AR/COC: 612513, 612514, 612515, 912516, and 612517
SDG: 244469
Laboratory: GEL
Project/Task: 125778.10.11.01
Analysis: General Chemistry

See the attached Data Validation Worksheets for supporting documentation on the data review and validation. This validation was performed according to SNL/NM ER Project AOP 00-03 Rev 2.

Summary

Six samples were prepared and analyzed with accepted procedures using method EPA 314.0 (perchlorate). Four samples were prepared and analyzed with accepted procedures using method EPA 353.2 (nitrate/nitrite by Cd reduction). Data were reported for all required analytes. Problems were identified with the data package that result in the qualification of data.

1. Nitrate/Nitrate was detected in the method blank (MB) at a concentration ≥ the method detection limit (MDL) but < the practical quantitation limit (PQL). The nitrate/nitrate result for sample 244469-015 was a detect <5X the MB concentration and will be **qualified "0.061U,B"** at 5X the value of the MB (mg/L). The other associated sample results were detects >5X the MB result and will not be qualified.

Data are acceptable and reported QC measures appear to be adequate. The following sections discuss the data review and validation.

Holding Times and Preservation

The samples were analyzed within the prescribed holding times and properly preserved.

Calibration

All initial and continuing calibration QC acceptance criteria were met.

Blanks

No target analytes were detected in the blanks except as noted above in the summary section and as follows.

Nitrate/Nitrite:
Nitrate/Nitrate was detected in the equipment blank (EB) associated with samples -008 and -011 at a concentration > the MDL but < the PQL. However, it should be noted that the nitrate/nitrate result for the EB has already been qualified non-detect due to MB contamination and, thus, does not affect the field sample results.

Laboratory Control Sample (LCS)

All LCS recoveries met QC acceptance criteria.

Matrix Spike (MS)

All MS recoveries met QC acceptance criteria.

Laboratory Replicate

The replicate met all QC acceptance criteria.

Detection Limits/Dilutions

All detection limits were properly reported. The samples did not required dilution except as follows.

Nitrate/Nitrite:
Samples -004, -008, and -011 were diluted 10X for nitrate/nitrite due to high concentrations for this analysis. Sample -015 was diluted 5X for nitrate/nitrite was due to matrix interference for this analysis. All associated batch QC samples were analyzed at dilution factors that resulted in relative dilution factors to the sample that were ≤5X. No sample data will be qualified as a result.

Other QC

EBs and a field duplicate pair were submitted on the AR/COC(s). There are no "required" review criteria for field duplicate analyses comparability; no data will be qualified as a result. It should be noted that the EB on AR/COC# 612516 is associated with the samples on AR/COC# 612517.

No other specific issues that affect data quality were identified.

Sample Findings Summary

Site: TAG GWM **AR/COC:** 612513, 612514, 612515,612516, 612517 **Data Type:** Organic, Gen Chem

	VOC	67-66-3 (chloroform)	General Chemistry	N599 (nitrate/nitrite)
088021-001 TA2-W-27		1.0U,B2 (ug/L)		
088018-018 TAG-EB1				0.061U,B (mg/L)
		Perchlorate analysis met QC acceptance criteria. No sample data will be qualified.		

Validated By:

Kevin A. Lambert

Kevin A. Lambert

Date: 02/23/10

ANALYTICAL QUALITY ASSOCIATES, INC.

616 Maxine NE
Albuquerque, NM 87123
505-299-5201
www.aqainc.net

Memorandum

DATE: March 28, 2010

TO: File

FROM: David Schwent

SUBJECT: General Chemistry Data Review and Validation - SNL
Site: TAV GWM
AR/COC: 612557, 612558, 612559, and 612560
SDG: 247072
Laboratory: GEL
Project/Task No: 125778.10.11.01

See the attached Data Validation Worksheets for supporting documentation on the data review and validation. This validation was performed according to SNL/NM ER Project AOP 00-03 Rev 2.

Summary

The samples were prepared and analyzed with accepted procedures using EPA 314.0 (perchlorate) and EPA353.2 (nitrate/nitrite by Cd reduction). No problems were identified with the data package that result in the qualification of data.

Data are acceptable. QC measures appear to be adequate. The following sections discuss the data review and validation.

Holding Times/Preservation

All Analyses: All samples were analyzed within the prescribed holding times and properly preserved.

Calibration

All Analyses: All initial and continuing calibration QC acceptance criteria were met.

Blanks

All Analyses: No target analytes were detected in the blanks.

Laboratory Control Sample (LCS)

All Analyses: All LCS QC acceptance criteria were met.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

All Analyses: All MS (PS) QC acceptance criteria were met. No MSD (PSD) analyses were performed. The replicate analyses were used as measures of laboratory precision. No sample data will be qualified as a result.

Replicates

All Analyses: All replicate QC acceptance criteria were met.

Detection Limits/Dilutions

Perchlorate Analysis: All detection limits were properly reported. No samples required dilution.

Nitrate/nitrite Analysis: All detection limits were properly reported. Samples 247072-002, -008, -010, and -013 were diluted 25X for nitrate/nitrite due to high concentration of the target analyte and sample -006 was diluted 5X due to matrix inference. All associated batch QC samples were analyzed at dilution factors that resulted in relative dilution factors to the samples that were ≤5X. No sample data will be qualified as a result.

Other QC

All Analyses: No field blanks (FBs) were submitted on the AR/COCs. The relative percent difference (RPD) of the field duplicates (FD) (samples -010) was <20%. No QC acceptance criteria for the evaluation of FDs are currently in place.

No other specific issues were identified that affect data quality.

Sample Findings Summary

Site: TAV GWM

AR/COC: 612557, 612558, 612559, and 612560

Organic, Gen Chem

Sample ID	EPA 8260B (VOCs):	EPA 353.2 (nitrate/nitrite):	EPA 314.0 (perchlorate):												
	All Acceptance criteria met. No sample data will be qualified.	All Acceptance criteria met. No sample data will be qualified.	All Acceptance criteria met. No sample data will be qualified.												

Validated By: David Schmoll

Date: 03/28/10

ANALYTICAL QUALITY ASSOCIATES, INC.

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Memorandum

Date: April 29, 2010

To: File

From: Kevin Lambert

Subject: Inorganic Data Review and Validation – SNL
Site: Burn Site GWM
AR/COC: 612579 and 612580
SDG: 248343
Laboratory: GEL
Project/Task: 125778.10.11.01
Analysis: General Chemistry

See the attached Data Validation Worksheets for supporting documentation on the data review and validation. This validation was performed according to SNL/NM ER Project AOP 00-03 Rev 2.

Summary

Two samples were prepared and analyzed with accepted procedures using method EPA 353.2 (nitrate/nitrite by Cd reduction). One sample was prepared and analyzed with accepted procedures using method EPA 314.0 (perchlorate). Data were reported for all required analytes. No problems were identified with the data package that results in the qualification of data.

Data are acceptable and reported QC measures appear to be adequate. The following sections discuss the data review and validation.

Holding Times and Preservation

The samples were analyzed within the prescribed holding times and properly preserved.

Calibration

All initial and continuing calibration QC acceptance criteria were met.

Blanks

No target analytes were detected in the blanks.

Laboratory Control Sample (LCS)

All LCS recoveries met QC acceptance criteria.

Matrix Spike (MS)

All MS recoveries met QC acceptance criteria.

Laboratory Replicate

The replicate met all QC acceptance criteria.

Detection Limits/Dilutions

All detection limits were properly reported. Sample 248343-003 was diluted 10X and sample -006 was diluted 25X due to high concentrations for this analysis.

All associated batch QC samples were analyzed at dilution factors that resulted in relative dilution factors to the sample that were ≤5X. No sample data will be qualified as a result.

Other QC

No other specific issues that affect data quality were identified.

Sample Findings Summary

Site: Burn Site GWM **AR/COC:** 612579, 612580 **Data Type:** Organic & Gen Chem

	GRO	GRO (gasoline range organics)
088179-006 CYN-MW3		R,X1
088180-006 CYN-MW6		R,X1

DRO, perchlorate, and nitrate/nitrite analyses met QC acceptance criteria. No data will be qualified.

Validated By: Kevin A. Lambert

Kevin A. Lambert

Date: 04/29/10

ANALYTICAL QUALITY ASSOCIATES, INC.

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Memorandum

Date: April 8, 2010

To: File

From: Kevin Lambert

Subject: Inorganic Data Review and Validation – SNL
Site: Tijeras Arroyo Assessment GWM
AR/COC: 612604
SDG: 248347
Laboratory: GEL
Project/Task: 125778.10.11.01
Analysis: General Chemistry

See the attached Data Validation Worksheets for supporting documentation on the data review and validation. This validation was performed according to SNL/NM ER Project AOP 00-03 Rev 2.

Summary

One sample was prepared and analyzed with accepted procedures using method EPA 314.0 (perchlorate). Data were reported for all required analytes. No problems were identified with the data package that results in the qualification of data.

Data are acceptable and reported QC measures appear to be adequate. The following sections discuss the data review and validation.

Holding Times and Preservation

The sample was analyzed within the prescribed holding times and properly preserved.

Calibration

All initial and continuing calibration QC acceptance criteria were met.

Blanks

No target analytes were detected in the blanks.

Laboratory Control Sample (LCS)

All LCS recoveries met QC acceptance criteria.

Matrix Spike (MS)

All MS recoveries met QC acceptance criteria. It should be noted that the MS analysis was performed on a SNL sample of similar matrix from another SDG. No sample data will be qualified as a result.

Laboratory Replicate

The replicate met all QC acceptance criteria. It should be noted that the laboratory replicate analysis was performed on a SNL sample of similar matrix from another SDG. No sample data will be qualified as a result.

Detection Limits/Dilutions

All detection limits were properly reported. The sample did not required dilution.

Other QC

No other specific issues that affect data quality were identified.

Sample Findings Summary

Site: Tijeras Arroyo Assessment GWM **AR/COC:** 612604 **Data Type:** Gen Chem

Perchlorate analysis met QC acceptance criteria. No sample data will be qualified.

Validated By:

Kevin A. Lambert

Kevin A. Lambert

Date: 04/08/10