BW - 28

ANNUAL REPORT

2010

Key Energy Services, Inc.
6 Desta Drive
Suite 4300
Midland, Texas 79705

Telephone: 713.571-7536
Facsimile: 713.571-7173

Date: March 23, 2011

To: Mr. Jim Griswold
State of New Mexico
Oil Conservation Division
1220 S. St. Francis Drive
Santa Fe, New Mexico 87505

VIA Federal Express

Subject: Annual Class III Well Report for 2010

Ref: Eunice Brine Well BW-28
API No. 30-025-33547

Dear Jim:

Enclosed you will find the 2010 Annual Class III Brine Well Report for the State S Brine Station permit BW-28.

If you have any questions please do not hesitate to call me at 432-571-7536 or Wayne Price-Price LLC at 505-715-2809.

Sincerely,

Daniel K. Gibson
Corporate Environmental Director

ANNUAL CLASS III WELL REPORT FOR 2010

Key Energy Services, Inc.

State S Brine Station

Permit BW-028

API No. 30-025-33547

March 31, 2011

Submitted by: _____

Daniel K. Gibson, P. G.
Corporate Environmental Director
Key Energy Services, Inc.
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Section 1- Summary of Operations:

(Permit Condition 21.L.2. "Brief summary of brine wells operations including description and reason for any remedial or major work on the well. Include copy of C-103 if appropriate.")

During the 2010 year there was no major remedial work on the brine well other than the annual open to formation mechanical integrity test (MIT). Since the well-head and tubing was not unseated or pulled, no C-103 was required.

General housekeeping was routinely performed and some operational changes made to enhance monitoring. Also, on-site training was conducted for awareness of the permit conditions.

Pro-active "Area of Reviews" is being conducted on an on-going basis to ensure the safety of the well system, including cavern subsidence monitoring. (Appendix A shows photo of recent installed subsidence survey markers).

Yearly cavity size calculations will be analyzed to determine cavern stability.

Section 2- Production Volumes:

(Permit condition 21.L.3. "Production volumes as required from 21.G. including a running total to be carried over to each year. The maximum and average injection pressure.")

(21.G. Requires "The volumes of fluids injected (fresh water) and produced (brine) will be recorded monthly and submitted to the OCD Santa Fe Office in the annual report.")

Key has installed an electronic card system that tracks both sales of fresh and brine water. In addition, Key has installed Halliburton flow meters on the well to monitor both water injected and brine produced. In addition, Key is anticipating it will install a continuous pressure chart to monitor well pressure.

Monthly, Yearly and Lifetime Injection and Production Volumes:

The monthly, yearly and lifetime fresh water injection and brine production volumes are attached herein for review. The total 2010 brine production volume was 116,452 bbls and the lifetime production volume is 3,767,496 bbls.

Enclosed in the tables section of the report is a comparison chart of injected water to produced water with comments.

Maximum and Average Injection Pressure:

The maximum injection pressure is 304 psig, which is approximately 100 pounds below the permit maximum of 405 psig. The 304 pounds cannot be exceeded because of pump limitations. The pump is a submersible centrifugal pump, with a pump curve shut in pressure of 300 psig, plus or minus the water tank head pressure of 4 psig.

For this reason, permit condition 21.D. *Well Pressure Limits: "The operator shall have a working pressure limiting device or controls to prevent overpressure."* is conditionally met.

The average injection pressure is noted by Key's personal and is reported to range from 50 psig to 150 psig. This reading is taken from a pressure gauge mounted on the well inlet.

Section 3- Chemical Analysis:

(Permit condition 21.L.4. "A copy of the chemical analysis as required in 21H. "Analysis of injection Fluid and Brine: Provide an analysis of the injection fluid and brine with each annual report. Analysis will be for General Chemistry (method 40 CFR 136.3) using EPA methods.")

Please find attached in Appendix B and C the latest chemical analysis and chain-of-custody of the brine and injection water samples collected December 15, 2010 and analyzed by Trace Analysis Lubbock Texas. The laboratory used common approved EPA methods to analyze and report for major cations and anions of the water samples.

The injection water was collected from the fresh water load line that is connected directly to the fresh water storage tanks and to the inlet side of the injection pump. This sample point is representative of the fresh water at the station. The fresh water is supplied by the City of Eunice and is of high quality that meets EPA's Safe Drinking Water Standards. Included is the Eunice City water quality report for reference located in Appendix C.

The brine water was collected from the brine water load line that is connected directly to the brine water storage tanks and to the outlet side of the injection well. This sample point is representative of the brine water at the station.

The analysis revealed that the brine water is predominately sodium chloride with minor constituents of calcium, magnesium, and potassium combined with sulfate and bi-carbonate. This analysis is very representative of Salado "Salt" formation waters found in the area.

Section 4- Mechanical Integrity:

(Permit condition 21.L.5. "A copy of any mechanical integrity test chart, including the type of test, i.e. open to formation or casing test.")

The BW-28 discharge permit condition 21.E set forth the criteria for running MIT's for this well. This condition also includes a schedule for which type of test is required to be run during various years of the permit. In 2010, an "open to formation" test was ran and witness by Mr. Jim Griswold-OCD. This test was successful and witnessed by the OCD. The MIT test chart is attached in Appendix D for review.

Section 5- Deviations from Normal Production Methods:

(Permit condition 21.L.6. "Brief explanation describing deviations from normal production methods.")

In 2008 two OCD permitted brine wells collapsed. As a result of those incidents, the OCD issued a temporary moratorium on new brine well permits. During the moratorium OCD facilitated a work group to determine a proper path forward for current and new brine well operations.

As a result of those proceedings, OCD issued instructions to operators to change OCD's previous requirement of injecting fresh water down the annuals and producing brine up the tubing; to injecting fresh water down the tubing and producing brine up the annuals.

On June 1, 2009 Key followed OCD instructions and change the flow pattern. It should be noted that it took over a month in order to obtain 10# brine.

During the 2010 year Key Energy continued the normal flow production procedure and encountered no problems at this time.

Section 6- Leak and Spill Reports:

(Permit condition 21.L.7. "A copy of any leaks and spill reports.")

In 2010 there were no reportable leaks or spills. The brine station is designed with an impermeable liner under the brine tanks and loading pads. The concrete loading pads are designed to catch de-minimis drips from hose connections and is piped to two 250 bbl fiberglass tanks. This liquid material is routinely re-cycled or disposed of at an OCD approved site.

Rainwater that collects inside of the lined bermed area is routinely pumped out and re-cycled or disposed of at an OCD approved site. Very small quantities of rainwater which cannot be pumped is left to evaporate.

The entire facility is bermed to prevent run-on or run-off.

Any reportable or non-reportable spill is cleaned up pursuant to OCD rules and guidance.

Section 7- Groundwater Monitoring:

(Permit condition 21.L.8. "If applicable, results of any groundwater monitoring.")

The BW-28 facility does not have groundwater monitoring at this site. There are no planned or intentional discharges of water contaminants that may move directly or indirectly into groundwater. Any unintentional discharge, leak, spill, or drip is handled pursuant to the permit conditions.

Section 8- Brine Cavity/Subsidence Information:

(Permit condition 21.L.9. Information required from cavity/subsidence 21.F. "The operator shall provide information on the size and extent of the solution cavern and geologic/engineering data demonstrating that continued brine extraction will not cause surface subsidence, collapse or damage to property, or become a threat to public health and the environment.")

The last cavern survey did not provide adequate information pertaining to the size of the cavern. This has been an issue with several brine wells and until the validity of using sonar test is resolved, an alternate method will be employed.

This alternate method has been discussed with Jim Griswold-OCD and it was mutually decided that an estimated worst-case diameter was to be determined in order to provide maximum protection and ensure the permit conditions are being met.

The Solution Mining Research Institute (SMRI), other state agencies, OCD work-group, along with various studies conducted during the permitting of the WIPP site, has concluded that failures, such as "catastrophic collapses", have a higher probability when the roof diameter of the cavern exceeds a certain value compared to the actual depth of the cavern. This number is typically called D/H where "D" is the diameter of the cavity and "H" is the depth from surface to the casing shoe. Various reports seem to conclude that when a ratio of D/H reaches or exceeds .66 then the probably of collapse increases to a point that the well may be considered un-safe, thus closing procedures such as proper plugging and abandonment, and possible long term subsidence monitoring should be instituted.

The alternate method mentioned above involves calculating the maximum diameter of the cavern by using a worst-case scenario of an ***"upright cone".*** The volume of the cavern is calculated using the lifetime brine production volumes and using a *"rule of thumb"* conversion factor to determine the volumetric size of the cavern. The rule of thumb conversion factor was taken from the 1982 Wilson Report and equates that every barrel of brine produced will create approximately one cubic foot of cavity.

Please find attached in Appendix E, a wellbore sketch, the calculations for the brine well, and the lifetime brine production tally of approximately 3.76 million barrels of brine produced as of December 2010. The maximum diameter was calculated to be approximately 132 feet with a corresponding D/H ratio of .01 updated for the 2010 year.

Comparing the current D/H ratio of .10 to the .66 value mentioned above, it can be concluded that the current brine well status meets and exceeds the recommended safety value by six times.

In an overabundance of pre-caution, Key has installed surveyed subsidence monitoring points and will include this information in the next annual report.

Section 9- Area of Review Update Summary:

(Permit condition 21.L.10. "An Area of Review (AOR) Summary.")

An extensive AOR review was conducted for the Key Eunice "Old GoldStar" brine well, OCD permit # BW-28, located in UL E (1340 FNL & 330 FWL) of Section 15-Ts21S-R37E. Key used OCD records and field verification to confirm wells in the AOR.

Using OCD on-line files, a well status list was constructed (see Appendix F) listing all wells within adjacent quarter sections of the BW-28 location. The list shows API#, Operator well name, UL, Section, Township and Range, footages, Wells within 660 ft and ¼ mile, casing program status, casing/ cementing status, and corrective action required status.

In the 2010 review, there were two new wells added to the list. One well is the Apache Argo 011, which is not in the ¼ mile AOR, but in the adjacent quarter section UL K. The other new well is the Chevron State S #2, located within the ¼ mile AOR, but not in the 660 ft critical area. Both of these new wells were listed in the well status list as added, and shown on the modified AOR Unit Plot Plan in Appendix F.

An existing well, the Chevron St. 001 API# 30-025-06586 is being placed in the critical zone and is evaluated below:

There are now 39 wells located within these adjacent units. Within a ¼ miles radius of the brine well there are 15 wells found. Within 660 feet of the brine well there are 4 wells.

This comprehensive list was formulated to provide a baseline for future AOR studies. Since any future brine well will certainly be limited in size, a critical AOR of 660 feet was established and all wells within that radius was researched in greater detail.

The rational of this approach is the fact that brine wells are non-static in terms of size and configuration and the fact that Key has no direct control on wells drilled

in close proximity. By just initially focusing on the current wells in the ¼ mile AOR and assuming the status of these wells will remain the same, could be a mistake. Therefore, Key is taking a more dynamic approach and will study wells as the brine well grows, especially wells in the critical zone. We used the current estimated diameter of the brine well i.e. 132 ft (r = 66 ft) up-dated for 2010, and added a 10:1 safety factor which equates to about 660 ft. As the brine well grows, the critical AOR will be expanded and new wells will be added.

The Findings are as follows:

API # 30-025-09913: Shell NEDU 603, according to OCD records, is located 3390 FSL & 4520 FEL of Section 15-Ts21s-R37e. It is shown to be located approximately 500 ft to the SE of the BW-28 well. This well was drilled in 1951 with surface casing set at 211.68 ft and cemented with 325 sacks. Intermediate casing was set at 2818 feet and cemented with 500 sacks. A long string was ran and set at 8030 feet and cemented with 400 sacks.

It was plugged and abandoned in 1994 with substantial remedial work required. The plugging was approved by OCD at the time.

Conclusions: The OCD reports indicate that the salt section was properly plugged off inside and outside of all casing strings. The salt section (Salado formation) appears to start at about 1360 ft bgl and ends above 2800 ft bgl. There have been no reported or noted issues concerning this well in reference to the BW-28 brine well.

Corrective actions: No actions recommended at this time.

API # 30-025-9914: Apache NEDU 602, according to OCD records, is located 1980 FNL & 660 FWL of Section 15-Ts21s-R37e. It is shown to be located approximately 600 ft to the SSE of the BW-28 well. This well was drilled in 1990 with surface casing set at 237 feet bgl and cemented with 300 sacks. Intermediate casing was set at 2799 feet and cemented with 800 sacks. A long string was ran and set at 6625 feet and cemented with 350 sacks. The well is an active producer.

Conclusions: The OCD reports indicate that the casing strings were properly sealed above and below the salt section. The salt section appears to start at about 1360 ft bgl and ends slightly above 2800 ft bgl. There have been no reported or noted issues concerning this well in reference to the BW-28 brine well.

Corrective actions: No actions recommended at this time.

API # 30-025-39277: Apache WBDU 113, according to OCD records, is located 1290 FNL & 330 FEL of Section 16-Ts21s-R37e. It is located approximately 660 ft to the NE of the BW-28 well. This well was drilled in 2009 with surface casing set at 1342 feet bgl and cemented with 650 sacks circulated to the surface.

Production casing was set at 6912 feet bgl and cemented with 1000 sacks circulated to the surface. The well is an active producer.

Conclusions: The OCD reports indicate that the casing strings are properly sealed above and below the salt section. The salt section appears to start at about 1360 ft bgl and ends slightly above 2800 ft bgl. The amount of cement used during completion seems unusually high and may indicate lost circulation during the drilling operations. There have been no reported or noted issues concerning this well in reference to the BW-28 brine well.

Corrective actions: After further investigation, this well appears to be properly constructed and no issues have been related to the Key brine well. No further actions are warranted at this time.

API # 30-025-06586: The Chevron St. 001, is located 660 FNL & 660 FWL of Section 15-Ts21s-R37e. It is located approximately 700 ft to the NNE of the BW-28 well. This well was spud on 8/28/1948 as a Tidewater oil well producing out of the Drinkard unit. Surface casing set at 295 feet bgl and cemented with 325 sacks circulated to the surface. Intermediate casing was set at 2800 feet bgl and cemented with 1200 sacks circulated to the surface by calculation. The long string (production) was set at 6650 feet bgl and cemented with 500 sacks with TOC calculated at 3100 feet bgl.

The well was recompleted in 1994 as a Penrose-Skelly-Graybrug oil well producing at approximately 4006 feet bgl. The lower perfs were squeezed off with cement. The partial well records are included in Appendix F for reference.

Conclusions: The formation records indicate the top of salt is approximately at 1390 feet bgl and bottom of the salt is approximately at 2445 feet bgl. This well appears to have open hole between 2800-3100 feet. There is approximately 355 feet of anhydrite between this open hole and the bottom of the salt section.

Corrective Actions: The OCD reports indicated that the casing strings are properly sealed above and below the salt section. There are currently no issues being reported between BW-28 and this producing well. No further actions are warranted at this time.

Section 10- Certification (Permit Condition 22.L.11)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

Dennis Douglas
Vice President – Fluids Management Services

Date

TABLES

TABLE 1

TABLE 1 2010 BW-28 Annual Report Brine Well Production Volumes and Lifetime History Volumes

Year	Month	Reported Monthly Brine Production (bbls)	Quarterly Brine Production (bbls)	Annual Brine Production (bbls)	Reported Monthly Feshwater Injection (bbls)	Quarterly Brine Injection (bbls)	Annual Brine Injection (bbls)	Comments	Operator
1996	October	10,588			10,588				Goldstar SWD
	November	17,770			17,743				
	December	32,223	60,581	60,581	33,004	61,335	61,335		
1997	January	20,194			20,445			estimate (1)	
	February	20,194			20,445			estimate (1)	
	March	20,194	60,582		20,445	61,335		estimate (1)	
	April	48,226			47,714				
	May	38,000			36,571				
	June	47,970	134,196		42,264	126,549			
	July	24,711			24,271				
	August	31,817			31,559				
	September	38,120	94,648		38,697	94,527			
	October	27,462			25,512				
	November	26,618			26,261				
	December	16,137	70,217	359,643	15,850	67,623	350,034		
1998	January	13,301			13,614				
	February	47,212			49,552				
	March	42,337	102,850		44,964	108,130			
	April	27,072			27,519				
	May	18,084			18,161				
	June	26,699	71,855		26,976	72,656			
	July	16,535			15,929				
	August	8,287			7,488				
	September	9,994	34,816		9,021	32,438			
	October	13,312			17,302				
	November	9,822			9,873				
	December	8,287	31,421	240,942	9,497	36,672	249,896		
1999	January	4,026			4,607				
	February	6,867			8,138				
	March	5,641	16,534		6,030	18,775			
	April	7,873			7,338				
	May	34,100			32,461				
	June	20,708	62,681		20,171	59,970			
	July	35,278			34,566				
	August	35,876			35,995				
	September	43,196	114,350		42,724	113,285			
	October	9,700			10,097				
	November	8,383			9,080				
	December	28,662	46,745	240,310	29,721	48,898	240,928		
2000	January	65,492			65,028				
	February	37,709			36,909				
	March	40,409	143,610		40,414	142,351			
	April	20,181			20,404				
	May	52,092			50,373				
	June	41,371	113,644		37,776	108,553			
	July	33,860			31,757				
	August	37,535			35,492				
	September	58,042	129,437		53,288	120,537			
	October	28,777			27,216				
	November	22,677			24,130				
	December	17,670	69,124	455,815	17,369	68,715	440,156		
2001	January	32,427			37,083				
	February	17,493			23,076				
	March	34,050	83,970		33,216	93,375			
	April	32,900			36,064				Change to Yale E. Key
	May	66,724			52,555				
	June	37,607	137,231		42,347	130,966			
	July	16,399			15,588				
	August	10,173			33,664				
	September	16,185	42,757		16,200	65,452			
	October	25,184			24,147				
	November	10,447			8,666				
	December	21,061	56,692	320,650	18,733	51,546	341,339		
2002	January	11,809			10,135				
	February	22,700			23,733				
	March	4,693	39,202		4,369	38,237			
	April	15,160			16,776				
	May	16,321			17,283				
	June	13,938	45,419		15,276	49,335			
	July	8,301			10,688				
	August	7,079			6,842				
	September	18,560	33,940		17,240	34,770			
	October	7,040			7,823				
	November	9,788			10,950				
	December	11,666	28,494	147,055	19,667	38,440	160,782		
2003	January	20,278			23,526				
	February	8,603			5,310				
	March	37,680	66,561		35,548	64,384			

TABLE 1

TABLE 1 2010 BW-28 Annual Report Brine Well Production Volumes and Lifetime History Volumes

Year	Month	Reported Monthly Brine Production (bbls)	Quarterly Brine Production (bbls)	Annual Brine Production (bbls)	Reported Monthly Feshwater Injection (bbls)	Quarterly Brine Injection (bbls)	Annual Brine Injection (bbls)	Comments	Operator
	April	31,782			31,619				
	May	17,767			13,305				
	June	10,733	60,282		9,260	54,184			
	July	27,104			13,927				
	August	9,555			7,197				
	September	7,945	44,604		5,056	26,180			
	October	12,014			10,394				
	November	26,100			12,438				
	December	38,748	76,862	248,309	18,218	41,050	185,798		
2004	January	7,980			8,539				
	February	8,130			8,797				
	March	8,220	24,330		8,894	26,230			
	April	29,898			31,931				
	May	14,233			15,428				
	June	28,716	72,847		30,410	77,769			
	July	1,840			2,060				
	August	29,898			30,201				
	September	20,277	52,015		20,266	52,527			
	October	24,436			23,784				
	November	21,925			22,430				
	December	32,225	78,586	227,778	33,630	79,844	236,370		
2005	January	17,873			19,160				
	February	23,929			24,958				
	March	37,896	79,698		40,435	84,553			
	April	29,882			31,794				
	May	39,575			42,385				
	June	22,766	92,223		23,995	98,174			
	July	7,593			7,640				
	August	31,573			29,316				
	September	47,305	86,471		48,230	85,186			
	October	38,571			51,232				
	November	31,533			27,670				
	December	36,430	106,534	364,926	36,412	115,314	383,227		
2006	January	18,480			19,977				
	February	33,250			35,511				
	March	39,492	91,222		38,630	94,118			
	April	40,194			43,605				
	May	51,009			54,630				
	June	22,374	113,577		24,832	123,067			
	July	38,208			37,613				
	August	35,627			36,201				
	September	48,784	122,619		47,312	121,126			
	October	50,375			51,232				
	November	26,084			27,670				
	December	8,224	84,683	412,101	10,202	89,104	427,415		
2007	January	31,540			33,320				
	February	24,313			25,260				Change to Key Energy Services
	March	40,514	96,367		38,412	96,992			
	April	34,095			35,120				
	May	19,308			23,130				
	June	9,170	62,573		11,009	69,259			
	July	30,857			28,468				
	August	12,394			18,884				
	September	25,970	69,221		23,360	70,712			
	October	7,882			7,643				
	November	2,476			2,630				
	December	3,933	14,291	242,452	4,528	14,801	251,764		
2008	January	1,706			1,982				
	February	5,845			6,203				
	March	21,386	28,937		21,673	29,858			
	April	25,787			22,704				
	May	17,100			19,842				
	June	16,598	59,485		17,479	60,025			
	July	32,458			36,448				
	August	37,458			38,377				
	September	39,945	109,861		37,203	112,028			
	October	25,572			26,551				
	November	27,325			25,792				
	December	26,825	79,722	278,005	28,694	81,037	282,948		
2009	January	20,990			21,310				
	February	650			1,306				
	March	3,249	24,889		3,420	26,036			
	April	5,428			5,360				
	May	1,343			1,762				
	June	630	7,401		1,232	8,354			
	July	1,546			1,673				
	August	881			1,031				
	September	2,672	5,099		2,930	5,634			

TABLE 1

TABLE 1 2010 BW-28 Annual Report Brine Well Production Volumes and Lifetime History Volumes

Year	Month	Reported Monthly Brine Production (bbls)	Quarterly Brine Production (bbls)	Annual Brine Production (bbls)	Reported Monthly Feshwater Injection (bbls)	Quarterly Brine Injection (bbls)	Annual Brine Injection (bbls)	Comments	Operator
	October	9,898			8,861				
	November	3,716			3,618				
	December	1,474	15,088	52,477	2,035	14,514	54,538		
2010	January	0			0				
	February	1,650			1,810				
	March	4,092	5,742		4,789	6,599			
	April	5,092			6,150				
	May	12,256			14,953				
	June	2,099	19,447		2,033	23,136			
	July	5,068			6,322				
	August	10,270			15,126				
	September	11,281	26,619		10,334	31,782			
	October	7,575			8,802				
	November	20,304			24,494				
	December	36,765	64,644	116,452	44,153	77,449	138,966		
TOTAL VOLUMES				3,767,496			3,805,496		

1 - Estimated quarterly production and injection volumes calculated by averaging the previous quarter of data.
bbls - barrels

INJECTION AND PRODUCTION COMPARISON CHART

KEY ENERGY EUNICE BRINE WELL BW-28 STATE #1 API# 30-025-33547

WATER IN-WATER OUT BBLS

YEAR 2010

MONTH	WATER IN	WATER OUT	PSI	RATIO OF WATER IN-OUT	
Jan-10	0	0	0	0.00%	***
Feb-10	1,810	1,650	50	8.84%	***
Mar-10	4,789	4,092	50	14.55%	***
Apr-10	6,150	5,092	50	17.20%	***
May-10	14,953	12,256	50	18.04%	***
Jun-10	2,033	2,099	50	-3.25%	***
Jul-10	6,322	5,068	100	19.84%	***
Aug-10	15,126	10,270	100	32.10%	***
Sep-10	10,334	11,281	100	-9.16%	***
Oct-10	8,802	7,575	100	13.94%	***
Nov-10	24,494	20,304	100	17.11%	***
Dec-10	44,153	36,765	100	16.73%	***
TOTAL	**138,966**	**116,452**			

		YEARLY RATIO %	MONTHLY AVERAGE %
BRINE PRODUCTION BBLS	116,452	**16.20%**	**13.27%**
FRESH WATER INJECTION BBLS	138,966		

NOTES:

*** Positive % numbers means more Fresh Water injected than brine water produced.

*** Negative % numbers means more Brine Water produced than fresh water injected.

Normal ratios can range from +5% to +15 %; Short term negative ratios are acceptable. Long term negative numbers should be checked out and are not considered normal.

APPENDICES

APPENDIX A

PHOTOGRAPHS


DO NOT
TRUCKS

APPENDIX B

LABORATORY REPORT

CHAIN OF CUSTODY

Summary Report

Wayne Price
Key Energy Services-Eunice

P.O. Box
Eunice, NM 88231

Report Date: December 31, 2010

Work Order: 10121617

Project Location: Key Brine Well BW-28, Eunice, NM
Project Name: Brine Well BW-28
Project Number: 121510-B

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
253554	BW-28 Brine Water	water	2010-12-15	09:24	2010-12-16

Sample: 253554 - BW-28 Brine Water

Param	Flag	Result	Units	RL
Total Silver		<0.0500	mg/L	0.00500
Total Aluminum		<0.500	mg/L	0.0500
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1.00
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1.00
Bicarbonate Alkalinity		**90.0**	mg/L as CaCo3	4.00
Total Alkalinity		**90.0**	mg/L as CaCo3	4.00
Total Arsenic		<0.100	mg/L	0.0100
Total Boron		**14.9**	mg/L	0.0100
Total Barium		<0.100	mg/L	0.0100
Total Cadmium		<0.0500	mg/L	0.00500
Total Cobalt		<0.0500	mg/L	0.00500
Specific Conductance		**425000**	uMHOS/cm	0.00
Total Chromium		<0.0500	mg/L	0.00500
Total Copper		<0.0500	mg/L	0.00500
Density		**1.19**	g/ml	0.00
Total Iron		<0.100	mg/L	0.0100
Total Mercury		<0.000200	mg/L	0.000200
Chloride		**170000**	mg/L	2.50
Fluoride	[1]	<25.0	mg/L	0.500

continued ...

[1]Dilution necessitated due to the concentration of chloride present in the sample •

sample 253554 continued ...

Param	Flag	Result	Units	RL
Sulfate		**4690**	mg/L	2.50
Total Manganese		**0.599**	mg/L	0.00250
Total Molybdenum		<0.100	mg/L	0.0100
Total Nickel		<0.0500	mg/L	0.00500
Nitrite-N	[2]	<250	mg/L	0.500
Nitrate-N	[3]	<25.0	mg/L	0.500
Total Lead		<0.0500	mg/L	0.00500
pH		**6.91**	s.u.	2.00
Dissolved Calcium		**1330**	mg/L	1.00
Dissolved Magnesium		**863**	mg/L	1.00
Dissolved Potassium		**1460**	mg/L	1.00
Dissolved Sodium		**121000**	mg/L	1.00
Total Selenium		<0.200	mg/L	0.0200
Total Dissolved Solids		**300000**	mg/L	10.00
Total Cyanide		<0.0150	mg/L	0.0150
Total Uranium		<0.300	mg/L	0.0300
Total Zinc		<0.0500	mg/L	0.00500

[2]Dilution necessitated due to the concentration of chloride present in the sample •
[3]Dilution necessitated due to the concentration of chloride present in the sample •

TraceAnalysis, Inc.

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E-Mail: [illegible]

Certifications

WBENC: 237019 **HUB:** 1752439743100-86536 **DBE:** VN 20657
NCTRCA WFWB38444Y0909

NELAP Certifications

Lubbock: T104704219-08-TX, LELAP-02003, Kansas E-10317
El Paso: T104704221-08-TX, LELAP-02002
Midland: T104704392-08-TX

Analytical and Quality Control Report

Wayne Price
Key Energy Services-Eunice

P.O. Box
Eunice, NM, 88231

Report Date: December 31, 2010

Work Order: 10121617

Project Location: Key Brine Well BW-28, Eunice, NM
Project Name: Brine Well BW-28
Project Number: 121510-B

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
253554	BW-28 Brine Water	water	2010-12-15	09:24	2010-12-16

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 48 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director
Dr. Michael Abel, Project Manager

Standard Flags

B - The sample contains less than ten times the concentration found in the method blank.

Case Narrative

Samples for project Brine Well BW-28 were received by TraceAnalysis, Inc. on 2010-12-16 and assigned to work order 10121617. Samples for work order 10121617 were received intact at a temperature of 1.3 C.

Samples were analyzed for the following tests using their respective methods.

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
Ag, Total	S 6010C	65506	2010-12-22 at 10:16	76397	2010-12-22 at 11:11
Alkalinity	SM 2320B	65429	2010-12-17 at 15:52	76288	2010-12-17 at 15:52
Al, Total	S 6010C	65506	2010-12-22 at 10:16	76397	2010-12-22 at 11:11
As, Total	S 6010C	65506	2010-12-22 at 10:16	76397	2010-12-22 at 11:11
Ba, Total	S 6010C	65506	2010-12-22 at 10:16	76397	2010-12-22 at 11:11
B, Total	S 6010C	65506	2010-12-22 at 10:16	76397	2010-12-22 at 11:11
Ca, Dissolved	S 6010C	65401	2010-12-17 at 07:37	76391	2010-12-22 at 10:21
Cd, Total	S 6010C	65506	2010-12-22 at 10:16	76397	2010-12-22 at 11:11
Chloride (IC)	E 300.0	65479	2010-12-18 at 13:13	76359	2010-12-18 at 18:26
Conductivity	SM 2510B	65411	2010-12-17 at 11:00	76268	2010-12-17 at 11:56
Co, Total	S 6010C	65506	2010-12-22 at 10:16	76397	2010-12-22 at 11:11
Cr, Total	S 6010C	65506	2010-12-22 at 10:16	76397	2010-12-22 at 11:11
Cu, Total	S 6010C	65506	2010-12-22 at 10:16	76397	2010-12-22 at 11:11
Density	ASTM D854-92	65576	2010-12-24 at 11:02	76481	2010-12-24 at 11:03
Fe, Total	S 6010C	65506	2010-12-22 at 10:16	76397	2010-12-22 at 11:11
Fluoride (IC)	E 300.0	65476	2010-12-17 at 11:47	76354	2010-12-18 at 03:15
Hg, Total	S 7470A	65488	2010-12-21 at 15:51	76401	2010-12-22 at 12:27
K, Dissolved	S 6010C	65401	2010-12-17 at 07:37	76391	2010-12-22 at 10:21
Mg, Dissolved	S 6010C	65401	2010-12-17 at 07:37	76391	2010-12-22 at 10:21
Mn, Total	S 6010C	65506	2010-12-22 at 10:16	76397	2010-12-22 at 11:11
Mo, Total	S 6010C	65506	2010-12-22 at 10:16	76397	2010-12-22 at 11:11
Na, Dissolved	S 6010C	65401	2010-12-17 at 07:37	76391	2010-12-22 at 10:21
Ni, Total	S 6010C	65506	2010-12-22 at 10:16	76397	2010-12-22 at 11:11
NO2 (IC)	E 300.0	65476	2010-12-17 at 11:47	76354	2010-12-18 at 03:15
NO3 (IC)	E 300.0	65476	2010-12-17 at 11:47	76354	2010-12-18 at 03:15
Pb, Total	S 6010C	65506	2010-12-22 at 10:16	76397	2010-12-22 at 11:11
pH	SM 4500-H+	65420	2010-12-17 at 13:09	76278	2010-12-17 at 13:10
Se, Total	S 6010C	65506	2010-12-22 at 10:16	76397	2010-12-22 at 11:11
SO4 (IC)	E 300.0	65476	2010-12-17 at 11:47	76354	2010-12-18 at 03:15
TDS	SM 2540C	65632	2010-12-23 at 10:51	76543	2010-12-29 at 10:53
Total Cyanide	SM 4500-CN C,E	65513	2010-12-22 at 13:45	76406	2010-12-22 at 13:47
U, Total	S 6010C	65506	2010-12-22 at 10:16	76397	2010-12-22 at 11:11
Zn, Total	S 6010C	65506	2010-12-22 at 10:16	76397	2010-12-22 at 11:11

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order

10121617 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Analytical Report

Sample: 253554 - BW-28 Brine Water

Laboratory:	Lubbock				
Analysis:	Ag, Total	Analytical Method:	S 6010C	Prep Method:	S 3010A
QC Batch:	76397	Date Analyzed:	2010-12-22	Analyzed By:	RR
Prep Batch:	65506	Sample Preparation:	2010-12-22	Prepared By:	KV

Parameter	Flag	RL Result	Units	Dilution	RL
Total Silver		<0.0500	mg/L	10	0.00500

Sample: 253554 - BW-28 Brine Water

Laboratory:	Lubbock				
Analysis:	Al, Total	Analytical Method:	S 6010C	Prep Method:	S 3010A
QC Batch:	76397	Date Analyzed:	2010-12-22	Analyzed By:	RR
Prep Batch:	65506	Sample Preparation:	2010-12-22	Prepared By:	KV

Parameter	Flag	RL Result	Units	Dilution	RL
Total Aluminum		<0.500	mg/L	10	0.0500

Sample: 253554 - BW-28 Brine Water

Laboratory:	Lubbock				
Analysis:	Alkalinity	Analytical Method:	SM 2320B	Prep Method:	N/A
QC Batch:	76288	Date Analyzed:	2010-12-17	Analyzed By:	CB
Prep Batch:	65429	Sample Preparation:		Prepared By:	CB

Parameter	Flag	RL Result	Units	Dilution	RL
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1	1.00
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1	1.00
Bicarbonate Alkalinity		**90.0**	mg/L as CaCo3	1	4.00
Total Alkalinity		**90.0**	mg/L as CaCo3	1	4.00

Sample: 253554 - BW-28 Brine Water

Laboratory:	Lubbock				
Analysis:	As, Total	Analytical Method:	S 6010C	Prep Method:	S 3010A
QC Batch:	76397	Date Analyzed:	2010-12-22	Analyzed By:	RR
Prep Batch:	65506	Sample Preparation:	2010-12-22	Prepared By:	KV

Parameter	Flag	RL Result	Units	Dilution	RL
Total Arsenic		<0.100	mg/L	10	0.0100

Sample: 253554 - BW-28 Brine Water

Laboratory:	Lubbock				
Analysis:	B, Total	Analytical Method:	S 6010C	Prep Method:	S 3010A
QC Batch:	76397	Date Analyzed:	2010-12-22	Analyzed By:	RR
Prep Batch:	65506	Sample Preparation:	2010-12-22	Prepared By:	KV

Parameter	Flag	RL Result	Units	Dilution	RL
Total Boron		14.9	mg/L	10	0.0100

Sample: 253554 - BW-28 Brine Water

Laboratory:	Lubbock				
Analysis:	Ba, Total	Analytical Method:	S 6010C	Prep Method:	S 3010A
QC Batch:	76397	Date Analyzed:	2010-12-22	Analyzed By:	RR
Prep Batch:	65506	Sample Preparation:	2010-12-22	Prepared By:	KV

Parameter	Flag	RL Result	Units	Dilution	RL
Total Barium		<0.100	mg/L	10	0.0100

Sample: 253554 - BW-28 Brine Water

Laboratory:	Lubbock				
Analysis:	Cd, Total	Analytical Method:	S 6010C	Prep Method:	S 3010A
QC Batch:	76397	Date Analyzed:	2010-12-22	Analyzed By:	RR
Prep Batch:	65506	Sample Preparation:	2010-12-22	Prepared By:	KV

Parameter	Flag	RL Result	Units	Dilution	RL
Total Cadmium		<0.0500	mg/L	10	0.00500

Sample: 253554 - BW-28 Brine Water

Laboratory:	Lubbock				
Analysis:	Co, Total	Analytical Method:	S 6010C	Prep Method:	S 3010A
QC Batch:	76397	Date Analyzed:	2010-12-22	Analyzed By:	RR
Prep Batch:	65506	Sample Preparation:	2010-12-22	Prepared By:	KV

Parameter	Flag	Result	RL	Units	Dilution	RL
Total Cobalt		<0.0500		mg/L	10	0.00500

Sample: 253554 - BW-28 Brine Water

Laboratory:	Lubbock				
Analysis:	Conductivity	Analytical Method:	SM 2510B	Prep Method:	N/A
QC Batch:	76268	Date Analyzed:	2010-12-17	Analyzed By:	PG
Prep Batch:	65411	Sample Preparation:	2010-12-17	Prepared By:	PG

Parameter	Flag	Result	RL	Units	Dilution	RL
Specific Conductance		425000		uMHOS/cm	5	0.00

Sample: 253554 - BW-28 Brine Water

Laboratory:	Lubbock				
Analysis:	Cr, Total	Analytical Method:	S 6010C	Prep Method:	S 3010A
QC Batch:	76397	Date Analyzed:	2010-12-22	Analyzed By:	RR
Prep Batch:	65506	Sample Preparation:	2010-12-22	Prepared By:	KV

Parameter	Flag	Result	RL	Units	Dilution	RL
Total Chromium		<0.0500		mg/L	10	0.00500

Sample: 253554 - BW-28 Brine Water

Laboratory:	Lubbock				
Analysis:	Cu, Total	Analytical Method:	S 6010C	Prep Method:	S 3010A
QC Batch:	76397	Date Analyzed:	2010-12-22	Analyzed By:	RR
Prep Batch:	65506	Sample Preparation:	2010-12-22	Prepared By:	KV

Parameter	Flag	Result	RL	Units	Dilution	RL
Total Copper		<0.0500		mg/L	10	0.00500

Sample: 253554 - BW-28 Brine Water

Laboratory:	Lubbock				
Analysis:	Density	Analytical Method:	ASTM D854-92	Prep Method:	N/A
QC Batch:	76481	Date Analyzed:	2010-12-24	Analyzed By:	AH
Prep Batch:	65576	Sample Preparation:	2010-12-24	Prepared By:	AH

Parameter	Flag	RL Result	Units	Dilution	RL
Density		1.19	g/ml	1	0.00

Sample: 253554 - BW-28 Brine Water

Laboratory:	Lubbock				
Analysis:	Fe, Total	Analytical Method:	S 6010C	Prep Method:	S 3010A
QC Batch:	76397	Date Analyzed:	2010-12-22	Analyzed By:	RR
Prep Batch:	65506	Sample Preparation:	2010-12-22	Prepared By:	KV

Parameter	Flag	RL Result	Units	Dilution	RL
Total Iron		<0.100	mg/L	10	0.0100

Sample: 253554 - BW-28 Brine Water

Laboratory:	Lubbock				
Analysis:	Hg, Total	Analytical Method:	S 7470A	Prep Method:	N/A
QC Batch:	76401	Date Analyzed:	2010-12-22	Analyzed By:	TP
Prep Batch:	65488	Sample Preparation:	2010-12-21	Prepared By:	TP

Parameter	Flag	RL Result	Units	Dilution	RL
Total Mercury		<0.000200	mg/L	1	0.000200

Sample: 253554 - BW-28 Brine Water

Laboratory:	Lubbock				
Analysis:	Ion Chromatography	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	76354	Date Analyzed:	2010-12-18	Analyzed By:	PG
Prep Batch:	65476	Sample Preparation:	2010-12-17	Prepared By:	PG
QC Batch:	76359	Date Analyzed:	2010-12-18	Analyzed By:	PG
Prep Batch:	65479	Sample Preparation:	2010-12-18	Prepared By:	PG

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		170000	mg/L	5000	2.50
Fluoride	[1]	<25.0	mg/L	50	0.500
Sulfate		4690	mg/L	500	2.50

[1]Dilution necessitated due to the concentration of chloride present in the sample •

Sample: 253554 - BW-28 Brine Water

Laboratory:	Lubbock				
Analysis:	Mn, Total	Analytical Method:	S 6010C	Prep Method:	S 3010A
QC Batch:	76397	Date Analyzed:	2010-12-22	Analyzed By:	RR
Prep Batch:	65506	Sample Preparation:	2010-12-22	Prepared By:	KV

Parameter	Flag	RL Result	Units	Dilution	RL
Total Manganese		0.599	mg/L	10	0.00250

Sample: 253554 - BW-28 Brine Water

Laboratory:	Lubbock				
Analysis:	Mo, Total	Analytical Method:	S 6010C	Prep Method:	S 3010A
QC Batch:	76397	Date Analyzed:	2010-12-22	Analyzed By:	RR
Prep Batch:	65506	Sample Preparation:	2010-12-22	Prepared By:	KV

Parameter	Flag	RL Result	Units	Dilution	RL
Total Molybdenum		<0.100	mg/L	10	0.0100

Sample: 253554 - BW-28 Brine Water

Laboratory:	Lubbock				
Analysis:	Ni, Total	Analytical Method:	S 6010C	Prep Method:	S 3010A
QC Batch:	76397	Date Analyzed:	2010-12-22	Analyzed By:	RR
Prep Batch:	65506	Sample Preparation:	2010-12-22	Prepared By:	KV

Parameter	Flag	RL Result	Units	Dilution	RL
Total Nickel		<0.0500	mg/L	10	0.00500

Sample: 253554 - BW-28 Brine Water

Laboratory:	Lubbock				
Analysis:	NO2 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	76354	Date Analyzed:	2010-12-18	Analyzed By:	PG
Prep Batch:	65476	Sample Preparation:	2010-12-17	Prepared By:	PG

Parameter	Flag	RL Result	Units	Dilution	RL
Nitrite-N	[2]	<250	mg/L	500	0.500

[2]Dilution necessitated due to the concentration of chloride present in the sample •

Sample: 253554 - BW-28 Brine Water

Laboratory:	Lubbock				
Analysis:	NO3 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	76354	Date Analyzed:	2010-12-18	Analyzed By:	PG
Prep Batch:	65476	Sample Preparation:	2010-12-17	Prepared By:	PG

Parameter	Flag	Result	RL Units	Dilution	RL
Nitrate-N	[3]	<25.0	mg/L	50	0.500

Sample: 253554 - BW-28 Brine Water

Laboratory:	Lubbock				
Analysis:	Pb, Total	Analytical Method:	S 6010C	Prep Method:	S 3010A
QC Batch:	76397	Date Analyzed:	2010-12-22	Analyzed By:	RR
Prep Batch:	65506	Sample Preparation:	2010-12-22	Prepared By:	KV

Parameter	Flag	Result	RL Units	Dilution	RL
Total Lead		<0.0500	mg/L	10	0.00500

Sample: 253554 - BW-28 Brine Water

Laboratory:	Lubbock				
Analysis:	pH	Analytical Method:	SM 4500-H+	Prep Method:	N/A
QC Batch:	76278	Date Analyzed:	2010-12-17	Analyzed By:	CB
Prep Batch:	65420	Sample Preparation:		Prepared By:	CB

Parameter	Flag	Result	RL Units	Dilution	RL
pH		6.91	s.u.	1	2.00

Sample: 253554 - BW-28 Brine Water

Laboratory:	Lubbock				
Analysis:	Salts, Dissolved	Analytical Method:	S 6010C	Prep Method:	S 3005A
QC Batch:	76391	Date Analyzed:	2010-12-22	Analyzed By:	RR
Prep Batch:	65401	Sample Preparation:	2010-12-17	Prepared By:	KV

Parameter	Flag	Result	RL Units	Dilution	RL
Dissolved Calcium		1330	mg/L	10	1.00
Dissolved Magnesium		863	mg/L	10	1.00

[3]Dilution necessitated due to the concentration of chloride present in the sample •

continued ...

sample 253554 continued ...

Parameter	Flag	Result	RL	Units	Dilution	RL
Dissolved Potassium		1460		mg/L	10	1.00
Dissolved Sodium		**121000**		mg/L	1000	1.00

Sample: 253554 - BW-28 Brine Water

Laboratory:	Lubbock				
Analysis:	Se, Total	Analytical Method:	S 6010C	Prep Method:	S 3010A
QC Batch:	76397	Date Analyzed:	2010-12-22	Analyzed By:	RR
Prep Batch:	65506	Sample Preparation:	2010-12-22	Prepared By:	KV

Parameter	Flag	Result	RL	Units	Dilution	RL
Total Selenium		<0.200		mg/L	10	0.0200

Sample: 253554 - BW-28 Brine Water

Laboratory:	Lubbock				
Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	76543	Date Analyzed:	2010-12-29	Analyzed By:	PG
Prep Batch:	65632	Sample Preparation:	2010-12-24	Prepared By:	PG

Parameter	Flag	Result	RL	Units	Dilution	RL
Total Dissolved Solids		**300000**		mg/L	500	10.00

Sample: 253554 - BW-28 Brine Water

Laboratory:	Lubbock				
Analysis:	Total Cyanide	Analytical Method:	SM 4500-CN C,E	Prep Method:	N/A
QC Batch:	76406	Date Analyzed:	2010-12-22	Analyzed By:	AH
Prep Batch:	65513	Sample Preparation:	2010-12-22	Prepared By:	AH

Parameter	Flag	Result	RL	Units	Dilution	RL
Total Cyanide		<0.0150		mg/L	1	0.0150

Sample: 253554 - BW-28 Brine Water

Laboratory:	Lubbock				
Analysis:	U, Total	Analytical Method:	S 6010C	Prep Method:	S 3010A
QC Batch:	76397	Date Analyzed:	2010-12-22	Analyzed By:	RR
Prep Batch:	65506	Sample Preparation:	2010-12-22	Prepared By:	KV

Parameter	Flag	RL Result	Units	Dilution	RL
Total Uranium		<0.300	mg/L	10	0.0300

Sample: 253554 - BW-28 Brine Water

Laboratory:	Lubbock				
Analysis:	Zn, Total	Analytical Method:	S 6010C	Prep Method:	S 3010A
QC Batch:	76397	Date Analyzed:	2010-12-22	Analyzed By:	RR
Prep Batch:	65506	Sample Preparation:	2010-12-22	Prepared By:	KV

Parameter	Flag	RL Result	Units	Dilution	RL
Total Zinc		<0.0500	mg/L	10	0.00500

Method Blank (1) QC Batch: 76268

QC Batch:	76268	Date Analyzed:	2010-12-17	Analyzed By:	PG
Prep Batch:	65411	QC Preparation:	2010-12-17	Prepared By:	PG

Parameter	Flag	MDL Result	Units	RL
Specific Conductance		2.33	uMIIOS/cm	

Method Blank (1) QC Batch: 76288

QC Batch:	76288	Date Analyzed:	2010-12-17	Analyzed By:	CB
Prep Batch:	65429	QC Preparation:	2010-12-17	Prepared By:	CB

Parameter	Flag	MDL Result	Units	RL
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1
Bicarbonate Alkalinity		<4.00	mg/L as CaCo3	4
Total Alkalinity		<4.00	mg/L as CaCo3	4

Method Blank (1) QC Batch: 76354

QC Batch:	76354	Date Analyzed:	2010-12-18	Analyzed By:	PG
Prep Batch:	65476	QC Preparation:	2010-12-17	Prepared By:	PG

Parameter	Flag	MDL Result	Units	RL
Nitrite-N		<0.0334	mg/L	0.5

Method Blank (1) QC Batch: 76354

QC Batch:	76354	Date Analyzed:	2010-12-18	Analyzed By:	PG
Prep Batch:	65476	QC Preparation:	2010-12-17	Prepared By:	PG

Parameter	Flag	MDL Result	Units	RL
Nitrate-N		<0.0491	mg/L	0.5

Method Blank (1) QC Batch: 76354

QC Batch:	76354	Date Analyzed:	2010-12-18	Analyzed By:	PG
Prep Batch:	65476	QC Preparation:	2010-12-17	Prepared By:	PG

Parameter	Flag	MDL Result	Units	RL
Fluoride		<0.0964	mg/L	0.5
Sulfate		<0.596	mg/L	2.5

Method Blank (1) QC Batch: 76359

QC Batch:	76359	Date Analyzed:	2010-12-18	Analyzed By:	PG
Prep Batch:	65479	QC Preparation:	2010-12-18	Prepared By:	PG

Parameter	Flag	MDL Result	Units	RL
Chloride		<0.0350	mg/L	2.5

Method Blank (1) QC Batch: 76391

QC Batch: 76391 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65401 | QC Preparation: 2010-12-17 | Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Dissolved Calcium		<0.0134	mg/L	1
Dissolved Magnesium		<0.184	mg/L	1
Dissolved Potassium		<0.0634	mg/L	1
Dissolved Sodium		<0.303	mg/L	1

Method Blank (1) QC Batch: 76397

QC Batch: 76397 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65506 | QC Preparation: 2010-12-22 | Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Total Silver		<0.00131	mg/L	0.005

Method Blank (1) QC Batch: 76397

QC Batch: 76397 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65506 | QC Preparation: 2010-12-22 | Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Total Aluminum		<0.00404	mg/L	0.05

Method Blank (1) QC Batch: 76397

QC Batch: 76397 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65506 | QC Preparation: 2010-12-22 | Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Total Arsenic		<0.00540	mg/L	0.01

Method Blank (1) QC Batch: 76397

QC Batch: 76397
Prep Batch: 65506

Date Analyzed: 2010-12-22
QC Preparation: 2010-12-22

Analyzed By: RR
Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Total Boron		<0.00146	mg/L	0.01

Method Blank (1) QC Batch: 76397

QC Batch: 76397
Prep Batch: 65506

Date Analyzed: 2010-12-22
QC Preparation: 2010-12-22

Analyzed By: RR
Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Total Barium		<0.00730	mg/L	0.01

Method Blank (1) QC Batch: 76397

QC Batch: 76397
Prep Batch: 65506

Date Analyzed: 2010-12-22
QC Preparation: 2010-12-22

Analyzed By: RR
Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Total Cadmium		<0.00209	mg/L	0.005

Method Blank (1) QC Batch: 76397

QC Batch: 76397
Prep Batch: 65506

Date Analyzed: 2010-12-22
QC Preparation: 2010-12-22

Analyzed By: RR
Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Total Cobalt		<0.00247	mg/L	0.005

Method Blank (1) QC Batch: 76397

QC Batch: 76397 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65506 | QC Preparation: 2010-12-22 | Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Total Chromium		<0.000873	mg/L	0.005

Method Blank (1) QC Batch: 76397

QC Batch: 76397 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65506 | QC Preparation: 2010-12-22 | Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Total Copper		<0.00205	mg/L	0.005

Method Blank (1) QC Batch: 76397

QC Batch: 76397 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65506 | QC Preparation: 2010-12-22 | Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Total Iron		<0.00300	mg/L	0.01

Method Blank (1) QC Batch: 76397

QC Batch: 76397 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65506 | QC Preparation: 2010-12-22 | Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Total Manganese		<0.00170	mg/L	0.0025

Method Blank (1) QC Batch: 76397

QC Batch: 76397
Prep Batch: 65506
Date Analyzed: 2010-12-22
QC Preparation: 2010-12-22
Analyzed By: RR
Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Total Molybdenum		<0.00356	mg/L	0.01

Method Blank (1) QC Batch: 76397

QC Batch: 76397
Prep Batch: 65506
Date Analyzed: 2010-12-22
QC Preparation: 2010-12-22
Analyzed By: RR
Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Total Nickel		<0.00274	mg/L	0.005

Method Blank (1) QC Batch: 76397

QC Batch: 76397
Prep Batch: 65506
Date Analyzed: 2010-12-22
QC Preparation: 2010-12-22
Analyzed By: RR
Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Total Lead		<0.00494	mg/L	0.005

Method Blank (1) QC Batch: 76397

QC Batch: 76397
Prep Batch: 65506
Date Analyzed: 2010-12-22
QC Preparation: 2010-12-22
Analyzed By: RR
Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Total Selenium		<0.0140	mg/L	0.02

Method Blank (1) QC Batch: 76397

QC Batch: 76397
Prep Batch: 65506
Date Analyzed: 2010-12-22
QC Preparation: 2010-12-22
Analyzed By: RR
Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Total Uranium		<0.0242	mg/L	0.03

Method Blank (1) QC Batch: 76397

QC Batch: 76397
Prep Batch: 65506
Date Analyzed: 2010-12-22
QC Preparation: 2010-12-22
Analyzed By: RR
Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Total Zinc		<0.00204	mg/L	0.005

Method Blank (1) QC Batch: 76401

QC Batch: 76401
Prep Batch: 65488
Date Analyzed: 2010-12-22
QC Preparation: 2010-12-21
Analyzed By: TP
Prepared By: TP

Parameter	Flag	MDL Result	Units	RL
Total Mercury		<0.0000388	mg/L	0.0002

Method Blank (1) QC Batch: 76406

QC Batch: 76406
Prep Batch: 65513
Date Analyzed: 2010-12-22
QC Preparation: 2010-12-22
Analyzed By: AH
Prepared By: AH

Parameter	Flag	MDL Result	Units	RL
Total Cyanide		<0.0115	mg/L	0.015

Method Blank (1) QC Batch: 76481

QC Batch: 76481 | Date Analyzed: 2010-12-24 | Analyzed By: AH
Prep Batch: 65576 | QC Preparation: 2010-12-24 | Prepared By: AH

Parameter	Flag	MDL Result	Units	RL
Density		0.994	g/ml	

Method Blank (1) QC Batch: 76543

QC Batch: 76543 | Date Analyzed: 2010-12-29 | Analyzed By: PG
Prep Batch: 65632 | QC Preparation: 2010-12-23 | Prepared By: PG

Parameter	Flag	MDL Result	Units	RL
Total Dissolved Solids		<5.000	mg/L	10

Duplicates (1) Duplicated Sample: 253554

QC Batch: 76278 | Date Analyzed: 2010-12-17 | Analyzed By: CB
Prep Batch: 65420 | QC Preparation: 2010-12-17 | Prepared By: CB

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
pH	6.91	6.91	s.u.	1	0	20

Duplicates (1) Duplicated Sample: 253554

QC Batch: 76481 | Date Analyzed: 2010-12-24 | Analyzed By: AH
Prep Batch: 65576 | QC Preparation: 2010-12-24 | Prepared By: AH

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Density	1.21	1.19	g/ml	1	2	20

Duplicates (1) Duplicated Sample: 253854

QC Batch: 76543 | Date Analyzed: 2010-12-29 | Analyzed By: PG
Prep Batch: 65632 | QC Preparation: 2010-12-23 | Prepared By: PG

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids	2362	2280	mg/L	2	4	10

Laboratory Control Spike (LCS-1)

QC Batch: 76354
Prep Batch: 65476
Date Analyzed: 2010-12-18
QC Preparation: 2010-12-17
Analyzed By: PG
Prepared By: PG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Nitrite-N	5.01	mg/L	1	5.00	<0.0334	100	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Nitrite-N	4.91	mg/L	1	5.00	<0.0334	98	90 - 110	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76354
Prep Batch: 65476
Date Analyzed: 2010-12-18
QC Preparation: 2010-12-17
Analyzed By: PG
Prepared By: PG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Nitrate-N	4.79	mg/L	1	5.00	<0.0491	96	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Nitrate-N	4.56	mg/L	1	5.00	<0.0491	91	90 - 110	5	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76354
Prep Batch: 65476
Date Analyzed: 2010-12-18
QC Preparation: 2010-12-17
Analyzed By: PG
Prepared By: PG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Fluoride	5.15	mg/L	1	5.00	<0.0964	103	90 - 110
Sulfate	24.6	mg/L	1	25.0	<0.596	98	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Fluoride	4.64	mg/L	1	5.00	<0.0964	93	90 - 110	10	20
Sulfate	23.7	mg/L	1	25.0	<0.596	95	90 - 110	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76359 | Date Analyzed: 2010-12-18 | Analyzed By: PG
Prep Batch: 65479 | QC Preparation: 2010-12-18 | Prepared By: PG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	23.4	mg/L	1	25.0	<0.0350	94	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	23.2	mg/L	1	25.0	<0.0350	93	90 - 110	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76391 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65401 | QC Preparation: 2010-12-17 | Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Calcium	56.1	mg/L	1	52.5	<0.0134	107	85 - 115
Dissolved Magnesium	55.1	mg/L	1	52.5	<0.184	105	85 - 115
Dissolved Potassium	53.9	mg/L	1	52.5	<0.0634	103	85 - 115
Dissolved Sodium	53.5	mg/L	1	52.5	<0.303	102	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Calcium	54.0	mg/L	1	52.5	<0.0134	103	85 - 115	4	20
Dissolved Magnesium	53.2	mg/L	1	52.5	<0.184	101	85 - 115	4	20
Dissolved Potassium	52.6	mg/L	1	52.5	<0.0634	100	85 - 115	2	20
Dissolved Sodium	52.2	mg/L	1	52.5	<0.303	99	85 - 115	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76397
Prep Batch: 65506

Date Analyzed: 2010-12-22
QC Preparation: 2010-12-22

Analyzed By: RR
Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Silver	0.119	mg/L	1	0.125	<0.00131	95	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Silver	0.118	mg/L	1	0.125	<0.00131	94	85 - 115	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76397
Prep Batch: 65506

Date Analyzed: 2010-12-22
QC Preparation: 2010-12-22

Analyzed By: RR
Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Aluminum	0.925	mg/L	1	1.00	<0.00404	92	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Aluminum	0.924	mg/L	1	1.00	<0.00404	92	85 - 115	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76397
Prep Batch: 65506

Date Analyzed: 2010-12-22
QC Preparation: 2010-12-22

Analyzed By: RR
Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Arsenic	0.514	mg/L	1	0.500	<0.00540	103	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Arsenic	0.517	mg/L	1	0.500	<0.00540	103	85 - 115	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76397 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65506 | QC Preparation: 2010-12-22 | Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Boron	0.0480	mg/L	1	0.0500	<0.00146	96	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Boron	0.0490	mg/L	1	0.0500	<0.00146	98	85 - 115	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76397 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65506 | QC Preparation: 2010-12-22 | Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Barium	0.932	mg/L	1	1.00	<0.00730	93	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Barium	0.929	mg/L	1	1.00	<0.00730	93	85 - 115	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76397 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65506 | QC Preparation: 2010-12-22 | Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Cadmium	0.261	mg/L	1	0.250	<0.00209	104	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Cadmium	0.258	mg/L	1	0.250	<0.00209	103	85 - 115	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76397 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65506 | QC Preparation: 2010-12-22 | Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Cobalt	0.240	mg/L	1	0.250	<0.00247	96	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Cobalt	0.235	mg/L	1	0.250	<0.00247	94	85 - 115	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76397 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65506 | QC Preparation: 2010-12-22 | Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Chromium	0.0930	mg/L	1	0.100	<0.000873	93	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Chromium	0.0910	mg/L	1	0.100	<0.000873	91	85 - 115	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76397 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65506 | QC Preparation: 2010-12-22 | Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Copper	0.118	mg/L	1	0.125	<0.00205	94	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Copper	0.117	mg/L	1	0.125	<0.00205	94	85 - 115	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76397 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65506 | QC Preparation: 2010-12-22 | Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Iron	0.495	mg/L	1	0.500	<0.00300	99	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Iron	0.493	mg/L	1	0.500	<0.00300	99	85 - 115	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76397 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65506 | QC Preparation: 2010-12-22 | Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Manganese	0.252	mg/L	1	0.250	<0.00170	101	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Manganese	0.250	mg/L	1	0.250	<0.00170	100	85 - 115	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76397 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65506 | QC Preparation: 2010-12-22 | Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Molybdenum	0.519	mg/L	1	0.500	<0.00356	104	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Molybdenum	0.522	mg/L	1	0.500	<0.00356	104	85 - 115	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76397 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65506 | QC Preparation: 2010-12-22 | Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Nickel	0.230	mg/L	1	0.250	<0.00274	92	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Nickel	0.239	mg/L	1	0.250	<0.00274	96	85 - 115	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76397 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65506 | QC Preparation: 2010-12-22 | Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Lead	0.528	mg/L	1	0.500	<0.00494	106	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Lead	0.523	mg/L	1	0.500	<0.00494	105	85 - 115	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76397 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65506 | QC Preparation: 2010-12-22 | Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Selenium	0.476	mg/L	1	0.500	<0.0140	95	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Selenium	0.474	mg/L	1	0.500	<0.0140	95	85 - 115	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76397
Prep Batch: 65506
Date Analyzed: 2010-12-22
QC Preparation: 2010-12-22
Analyzed By: RR
Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Uranium	0.524	mg/L	1	0.500	<0.0242	105	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Uranium	0.476	mg/L	1	0.500	<0.0242	95	85 - 115	10	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76397
Prep Batch: 65506
Date Analyzed: 2010-12-22
QC Preparation: 2010-12-22
Analyzed By: RR
Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Zinc	0.244	mg/L	1	0.250	<0.00204	98	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Zinc	0.248	mg/L	1	0.250	<0.00204	99	85 - 115	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76401
Prep Batch: 65488
Date Analyzed: 2010-12-22
QC Preparation: 2010-12-21
Analyzed By: TP
Prepared By: TP

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Mercury	0.00375	mg/L	1	0.00400	<0.0000388	94	91.4 - 111

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Mercury	0.00406	mg/L	1	0.00400	<0.0000388	102	91.4 - 111	8	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76406 | Date Analyzed: 2010-12-22 | Analyzed By: AH
Prep Batch: 65513 | QC Preparation: 2010-12-22 | Prepared By: AH

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Cyanide	0.101	mg/L	1	0.120	<0.0115	84	83.3 - 116

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Cyanide	0.104	mg/L	1	0.120	<0.0115	87	83.3 - 116	3	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76543 | Date Analyzed: 2010-12-29 | Analyzed By: PG
Prep Batch: 65632 | QC Preparation: 2010-12-23 | Prepared By: PG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Dissolved Solids	997	mg/L	1	1000	<5.00	100	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Dissolved Solids	1010	mg/L	1	1000	<5.00	101	90 - 110	1	10

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 253650

QC Batch: 76354 | Date Analyzed: 2010-12-18 | Analyzed By: PG
Prep Batch: 65476 | QC Preparation: 2010-12-17 | Prepared By: PG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Nitrite-N	4770	mg/L	1000	5000	<33.4	95	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Nitrite-N	4870	mg/L	1000	5000	<33.4	97	90 - 110	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 253650

QC Batch: 76354
Prep Batch: 65476
Date Analyzed: 2010-12-18
QC Preparation: 2010-12-17
Analyzed By: PG
Prepared By: PG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Nitrate-N	4750	mg/L	1000	5000	<49.1	95	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Nitrate-N	4750	mg/L	1000	5000	<49.1	95	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 253650

QC Batch: 76354
Prep Batch: 65476
Date Analyzed: 2010-12-18
QC Preparation: 2010-12-17
Analyzed By: PG
Prepared By: PG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Fluoride	4830	mg/L	1000	5000	<96.4	96	90 - 110
Sulfate	24900	mg/L	1000	25000	<596	98	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Fluoride	5320	mg/L	1000	5000	<96.4	106	90 - 110	10	20
Sulfate	24800	mg/L	1000	25000	<596	98	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 253586

QC Batch: 76359
Prep Batch: 65479
Date Analyzed: 2010-12-18
QC Preparation: 2010-12-18
Analyzed By: PG
Prepared By: PG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	118	mg/L	5	125	<0.175	94	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	118	mg/L	5	125	<0.175	94	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 253432

QC Batch: 76391
Prep Batch: 65401
Date Analyzed: 2010-12-22
QC Preparation: 2010-12-17
Analyzed By: RR
Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Calcium	72.4	mg/L	1	52.5	22.1	96	75 - 125
Dissolved Magnesium	60.6	mg/L	1	52.5	11.9	93	75 - 125
Dissolved Potassium	60.5	mg/L	1	52.5	2.48	110	75 - 125
Dissolved Sodium	218	mg/L	1	52.5	158	114	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Calcium	73.4	mg/L	1	52.5	22.1	98	75 - 125	1	20
Dissolved Magnesium	61.3	mg/L	1	52.5	11.9	94	75 - 125	1	20
Dissolved Potassium	62.3	mg/L	1	52.5	2.48	114	75 - 125	3	20
Dissolved Sodium	220	mg/L	1	52.5	158	118	75 - 125	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (xMS-1) Spiked Sample:

QC Batch: 76397
Prep Batch: 65506
Date Analyzed: 2010-12-22
QC Preparation: 2010-12-22
Analyzed By: RR
Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Silver	0.117	mg/L	1	0.125	<0.00131	94	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Silver	0.119	mg/L	1	0.125	<0.00131	95	75 - 125	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (xMS-1) Spiked Sample:

QC Batch: 76397 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65506 | QC Preparation: 2010-12-22 | Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Aluminum	0.942	mg/L	1	1.00	<0.00404	94	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Aluminum	0.949	mg/L	1	1.00	<0.00404	95	75 - 125	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (xMS-1) Spiked Sample:

QC Batch: 76397 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65506 | QC Preparation: 2010-12-22 | Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Arsenic	0.516	mg/L	1	0.500	<0.00540	103	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Arsenic	0.518	mg/L	1	0.500	<0.00540	104	75 - 125	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (xMS-1) Spiked Sample:

QC Batch: 76397 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65506 | QC Preparation: 2010-12-22 | Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Boron	0.0510	mg/L	1	0.0500	<0.00146	102	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Boron	0.0490	mg/L	1	0.0500	<0.00146	98	75 - 125	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (xMS-1) Spiked Sample:

QC Batch: 76397 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65506 | QC Preparation: 2010-12-22 | Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Barium	1.00	mg/L	1	1.00	<0.00730	100	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Barium	1.01	mg/L	1	1.00	<0.00730	101	75 - 125	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (xMS-1) Spiked Sample:

QC Batch: 76397 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65506 | QC Preparation: 2010-12-22 | Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Cadmium	0.270	mg/L	1	0.250	<0.00209	108	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Cadmium	0.270	mg/L	1	0.250	<0.00209	108	75 - 125	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (xMS-1) Spiked Sample:

QC Batch: 76397 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65506 | QC Preparation: 2010-12-22 | Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Cobalt	0.240	mg/L	1	0.250	<0.00247	96	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Cobalt	0.245	mg/L	1	0.250	<0.00247	98	75 - 125	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (xMS-1) Spiked Sample:

QC Batch: 76397
Prep Batch: 65506
Date Analyzed: 2010-12-22
QC Preparation: 2010-12-22
Analyzed By: RR
Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Chromium	0.0910	mg/L	1	0.100	<0.000873	91	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Chromium	0.0900	mg/L	1	0.100	<0.000873	90	75 - 125	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (xMS-1) Spiked Sample:

QC Batch: 76397
Prep Batch: 65506
Date Analyzed: 2010-12-22
QC Preparation: 2010-12-22
Analyzed By: RR
Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Copper	0.122	mg/L	1	0.125	<0.00205	98	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Copper	0.122	mg/L	1	0.125	<0.00205	98	75 - 125	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (xMS-1) Spiked Sample:

QC Batch: 76397
Prep Batch: 65506
Date Analyzed: 2010-12-22
QC Preparation: 2010-12-22
Analyzed By: RR
Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Iron	0.500	mg/L	1	0.500	<0.00300	100	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Iron	0.509	mg/L	1	0.500	<0.00300	102	75 - 125	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (xMS-1) Spiked Sample:

QC Batch: 76397
Prep Batch: 65506
Date Analyzed: 2010-12-22
QC Preparation: 2010-12-22
Analyzed By: RR
Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Manganese	0.257	mg/L	1	0.250	<0.00170	103	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Manganese	0.262	mg/L	1	0.250	<0.00170	105	75 - 125	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (xMS-1) Spiked Sample:

QC Batch: 76397
Prep Batch: 65506
Date Analyzed: 2010-12-22
QC Preparation: 2010-12-22
Analyzed By: RR
Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Molybdenum	0.533	mg/L	1	0.500	<0.00356	107	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Molybdenum	0.521	mg/L	1	0.500	<0.00356	104	75 - 125	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (xMS-1) Spiked Sample:

QC Batch: 76397
Prep Batch: 65506
Date Analyzed: 2010-12-22
QC Preparation: 2010-12-22
Analyzed By: RR
Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Nickel	0.235	mg/L	1	0.250	<0.00274	94	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Nickel	0.235	mg/L	1	0.250	<0.00274	94	75 - 125	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (xMS-1) Spiked Sample:

QC Batch: 76397 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65506 | QC Preparation: 2010-12-22 | Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Lead	0.536	mg/L	1	0.500	<0.00494	107	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Lead	0.511	mg/L	1	0.500	<0.00494	102	75 - 125	5	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (xMS-1) Spiked Sample:

QC Batch: 76397 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65506 | QC Preparation: 2010-12-22 | Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Selenium	0.481	mg/L	1	0.500	<0.0140	96	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Selenium	0.486	mg/L	1	0.500	<0.0140	97	75 - 125	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (xMS-1) Spiked Sample:

QC Batch: 76397 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65506 | QC Preparation: 2010-12-22 | Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Uranium	0.456	mg/L	1	0.500	<0.0242	91	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Uranium	0.482	mg/L	1	0.500	<0.0242	96	75 - 125	6	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (xMS-1) Spiked Sample:

QC Batch: 76397 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65506 | QC Preparation: 2010-12-22 | Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Zinc	0.254	mg/L	1	0.250	<0.00204	102	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Zinc	0.252	mg/L	1	0.250	<0.00204	101	75 - 125	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 253418

QC Batch: 76401 | Date Analyzed: 2010-12-22 | Analyzed By: TP
Prep Batch: 65488 | QC Preparation: 2010-12-21 | Prepared By: TP

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Mercury	0.00357	mg/L	1	0.00400	0.00015	86	75 - 122

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Mercury	0.00345	mg/L	1	0.00400	0.00015	82	75 - 122	3	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 253892

QC Batch: 76406 | Date Analyzed: 2010-12-22 | Analyzed By: AH
Prep Batch: 65513 | QC Preparation: 2010-12-22 | Prepared By: AH

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Cyanide	0.0963	mg/L	1	0.120	<0.0115	80	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Cyanide	0.0977	mg/L	1	0.120	<0.0115	81	80 - 120	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Standard (ICV-1)

QC Batch: 76268 Date Analyzed: 2010-12-17 Analyzed By: PG

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		uMHOS/cm	1410	1440	102	90 - 110	2010-12-17

Standard (CCV-1)

QC Batch: 76268 Date Analyzed: 2010-12-17 Analyzed By: PG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		uMHOS/cm	1410	1470	104	90 - 110	2010-12-17

Standard (ICV-1)

QC Batch: 76278 Date Analyzed: 2010-12-17 Analyzed By: CB

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7.00	7.01	100	98 - 102	2010-12-17

Standard (CCV-1)

QC Batch: 76278 Date Analyzed: 2010-12-17 Analyzed By: CB

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7.00	7.02	100	98 - 102	2010-12-17

Standard (ICV-1)

QC Batch: 76288 Date Analyzed: 2010-12-17 Analyzed By: CB

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0.00	10.0		-	2010-12-17
Carbonate Alkalinity		mg/L as CaCo3	0.00	240		-	2010-12-17

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Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Bicarbonate Alkalinity		mg/L as CaCo3	0.00	<4.00		-	2010-12-17
Total Alkalinity		mg/L as CaCo3	250	250	100	90 - 110	2010-12-17

Standard (CCV-1)

QC Batch: 76288 Date Analyzed: 2010-12-17 Analyzed By: CB

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0.00	10.0		-	2010-12-17
Carbonate Alkalinity		mg/L as CaCo3	0.00	240		-	2010-12-17
Bicarbonate Alkalinity		mg/L as CaCo3	0.00	<4.00		-	2010-12-17
Total Alkalinity		mg/L as CaCo3	250	250	100	90 - 110	2010-12-17

Standard (CCV-1)

QC Batch: 76354 Date Analyzed: 2010-12-18 Analyzed By: PG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Nitrite-N		mg/L	5.00	4.89	98	90 - 110	2010-12-18

Standard (CCV-1)

QC Batch: 76354 Date Analyzed: 2010-12-18 Analyzed By: PG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Nitrate-N		mg/L	5.00	4.80	96	90 - 110	2010-12-18

Standard (CCV-1)

QC Batch: 76354 Date Analyzed: 2010-12-18 Analyzed By: PG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Fluoride		mg/L	5.00	4.91	98	90 - 110	2010-12-18

continued ...

standard continued ...

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		mg/L	25.0	24.7	99	90 - 110	2010-12-18

Standard (CCV-2)

QC Batch: 76354 Date Analyzed: 2010-12-18 Analyzed By: PG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Nitrite-N		mg/L	5.00	4.73	95	90 - 110	2010-12-18

Standard (CCV-2)

QC Batch: 76354 Date Analyzed: 2010-12-18 Analyzed By: PG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Nitrate-N		mg/L	5.00	4.69	94	90 - 110	2010-12-18

Standard (CCV-2)

QC Batch: 76354 Date Analyzed: 2010-12-18 Analyzed By: PG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Fluoride		mg/L	5.00	4.81	96	90 - 110	2010-12-18
Sulfate		mg/L	25.0	24.4	98	90 - 110	2010-12-18

Standard (CCV-1)

QC Batch: 76359 Date Analyzed: 2010-12-18 Analyzed By: PG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	25.0	22.5	90	90 - 110	2010-12-18

Standard (CCV-2)

QC Batch: 76359 Date Analyzed: 2010-12-18 Analyzed By: PG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	25.0	23.4	94	90 - 110	2010-12-18

Standard (ICV-1)

QC Batch: 76391 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	51.0	53.4	105	90 - 110	2010-12-22
Dissolved Magnesium		mg/L	51.0	52.2	102	90 - 110	2010-12-22
Dissolved Potassium		mg/L	55.0	57.9	105	90 - 110	2010-12-22
Dissolved Sodium		mg/L	51.0	53.2	104	90 - 110	2010-12-22

Standard (CCV-1)

QC Batch: 76391 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	51.0	53.6	105	90 - 110	2010-12-22
Dissolved Magnesium		mg/L	51.0	52.9	104	90 - 110	2010-12-22
Dissolved Potassium		mg/L	55.0	57.8	105	90 - 110	2010-12-22
Dissolved Sodium		mg/L	51.0	53.1	104	90 - 110	2010-12-22

Standard (ICV-1)

QC Batch: 76397 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Silver		mg/L	0.250	0.246	98	90 - 110	2010-12-22

Standard (ICV-1)

QC Batch: 76397 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Aluminum		mg/L	1.00	1.03	103	90 - 110	2010-12-22

Standard (ICV-1)

QC Batch: 76397 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Arsenic		mg/L	2.00	2.00	100	95 - 105	2010-12-22

Standard (ICV-1)

QC Batch: 76397 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Boron		mg/L	1.00	1.01	101	90 - 110	2010-12-22

Standard (ICV-1)

QC Batch: 76397 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Barium		mg/L	1.00	0.947	95	90 - 110	2010-12-22

Standard (ICV-1)

QC Batch: 76397 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Cadmium		mg/L	1.00	1.05	105	90 - 110	2010-12-22

Standard (ICV-1)

QC Batch: 76397 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Cobalt		mg/L	1.00	0.977	98	90 - 110	2010-12-22

Standard (ICV-1)

QC Batch: 76397 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Chromium		mg/L	1.00	1.00	100	90 - 110	2010-12-22

Standard (ICV-1)

QC Batch: 76397 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Copper		mg/L	1.00	0.953	95	90 - 110	2010-12-22

Standard (ICV-1)

QC Batch: 76397 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Iron		mg/L	1.00	0.996	100	90 - 110	2010-12-22

Standard (ICV-1)

QC Batch: 76397 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Manganese		mg/L	1.00	0.992	99	90 - 110	2010-12-22

Standard (ICV-1)

QC Batch: 76397 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Molybdenum		mg/L	1.00	1.00	100	90 - 110	2010-12-22

Standard (ICV-1)

QC Batch: 76397 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Nickel		mg/L	1.00	0.987	99	90 - 110	2010-12-22

Standard (ICV-1)

QC Batch: 76397 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Lead		mg/L	2.00	2.00	100	90 - 110	2010-12-22

Standard (ICV-1)

QC Batch: 76397 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Selenium		mg/L	1.00	0.958	96	90 - 110	2010-12-22

Standard (ICV-1)

QC Batch: 76397 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Uranium		mg/L	1.00	0.995	100	90 - 110	2010-12-22

Standard (ICV-1)

QC Batch: 76397 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Zinc		mg/L	1.00	1.00	100	90 - 110	2010-12-22

Standard (CCV-1)

QC Batch: 76397 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Silver		mg/L	0.125	0.118	94	90 - 110	2010-12-22

Standard (CCV-1)

QC Batch: 76397 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Aluminum		mg/L	1.00	0.961	96	90 - 110	2010-12-22

Standard (CCV-1)

QC Batch: 76397 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Arsenic		mg/L	1.00	0.974	97	90 - 110	2010-12-22

Standard (CCV-1)

QC Batch: 76397 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Boron		mg/L	1.00	0.976	98	90 - 110	2010-12-22

Standard (CCV-1)

QC Batch: 76397 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Barium		mg/L	1.00	0.978	98	90 - 110	2010-12-22

Standard (CCV-1)

QC Batch: 76397 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Cadmium		mg/L	1.00	0.999	100	90 - 110	2010-12-22

Standard (CCV-1)

QC Batch: 76397 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Cobalt		mg/L	1.00	0.965	96	90 - 110	2010-12-22

Standard (CCV-1)

QC Batch: 76397 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Chromium		mg/L	1.00	0.969	97	90 - 110	2010-12-22

Standard (CCV-1)

QC Batch: 76397 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Copper		mg/L	1.00	0.966	97	90 - 110	2010-12-22

Standard (CCV-1)

QC Batch: 76397 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Iron		mg/L	1.00	0.983	98	90 - 110	2010-12-22

Standard (CCV-1)

QC Batch: 76397 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Manganese		mg/L	1.00	0.981	98	90 - 110	2010-12-22

Standard (CCV-1)

QC Batch: 76397 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Molybdenum		mg/L	1.00	0.977	98	90 - 110	2010-12-22

Standard (CCV-1)

QC Batch: 76397 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Nickel		mg/L	1.00	0.955	96	90 - 110	2010-12-22

Standard (CCV-1)

QC Batch: 76397 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Lead		mg/L	1.00	0.953	95	90 - 110	2010-12-22

Standard (CCV-1)

QC Batch: 76397 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Selenium		mg/L	1.00	0.964	96	90 - 110	2010-12-22

Standard (CCV-1)

QC Batch: 76397 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Uranium		mg/L	1.00	0.965	96	90 - 110	2010-12-22

Standard (CCV-1)

QC Batch: 76397 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Zinc		mg/L	1.00	1.01	101	90 - 110	2010-12-22

Standard (CCV-1)

QC Batch: 76401 Date Analyzed: 2010-12-22 Analyzed By: TP

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Mercury		mg/L	0.00500	0.00496	99	90 - 110	2010-12-22

Standard (CCV-2)

QC Batch: 76401 Date Analyzed: 2010-12-22 Analyzed By: TP

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Mercury		mg/L	0.00500	0.00499	100	90 - 110	2010-12-22

Standard (ICV-1)

QC Batch: 76406 Date Analyzed: 2010-12-22 Analyzed By: AH

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Cyanide		mg/L	0.120	0.106	88	85 - 115	2010-12-22

Standard (CCV-1)

QC Batch: 76406 Date Analyzed: 2010-12-22 Analyzed By: AH

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Cyanide		mg/L	0.120	0.108	90	85 - 115	2010-12-22

LAB Order ID # 10121617 ICE CHEST #496 COC 121510-B

TraceAnalysis, Inc.

email: lab@traceanalysis.com

6701 Aberdeen Avenue, Suite 9, Lubbock, Texas 79424, Tel (806) 794-1296, Fax (806) 794-1298, 1 (800) 378-1296

5002 Basin Street, Suite A1, Midland, Texas 79703, Tel (432) 689-6301, Fax (432) 689-6313

200 East Sunset Rd., Suite E, El Paso, Texas 79922, Tel (915) 585-3443, Fax (915) 585-4944, 1 (888) 588-3443

BioAquatic Testing, 2501 Mayes Rd., Ste 100, Carrollton, Texas 75006, Tel (972) 242-7750

Company Name: KEY ENERGY
Phone #: 1-505-715-2809

Address: (Street, City, Zip) P.O. BOX 99 EUNICE NM 88231
Fax #: —

Contact Person: WAYNE PRICE
E-mail: WAYNEPRICE77@EARTHLINK.NET

Invoice to: (If different from above) SAB

Project #: 121510-B
Project Name: BW-28

Project Location (including state): KEY EUNICE, NM BRINE WELL BW-28
Sampler Signature: [signature]

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume / Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCl	HNO_3	H_2SO_4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
253554	BW-28 BRINE WATER	1	1000 mL	X								X	X	12/15/10	9:24 AM
	BW-28 BRINE WATER	2	1000 mL	X					X			X		"	"
	" " "	1	500 mL	X					X			X		"	"
	" " "	1	250 mL	X							X	X		"	"

ANALYSIS REQUEST (Circle or Specify Method No.)

Row	MTBE 8021 / 602 / 8260 / 624	BTEX 8021 / 602 / 8260 / 624	TPH 418.1 / TX1005 / TX1005 Ext(C35)	TPH 8015 GRO / DRO / TVHC	PAH 8270 / 625	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260 / 624	GC/MS Semi. Vol. 8270 / 625	PCB's 8082 / 608	Pesticides 8081 / 608	BOD, TSS, pH	Moisture Content	Cl, Fl, S04, NO3, NO2, Alkalinity	Na, Ca, Mg, K, TDS, EC	GEN CHEM PH TDS COND	RA226/228	WQCC METALS + U	CYANIDE	Turn Around Time if different from standard	Hold
1																				X					
2																					X				
3																						X			
4																							X		

Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	
WAYNE PRICE	KEY	12/15/10	12:35 PM					INST ___ °C OBS ___ °C COR ___ °C
								INST ___ °C OBS ___ °C COR ___ °C
				Brenda Ward	Trace Lubbock	12/16/10	10:25	INST P OBS 1.0 °C COR 1.3 °C

LAB USE ONLY
Intact (Y) / N
Headspace Y / N / (NA)
Log-in-Review BR

REMARKS: COLLECTED FROM EAST LOAD LINE - BRINE WATER

- [ ] Dry Weight Basis Required
- [ ] TRRP Report Required
- [ ] Check If Special Reporting Limits Are Needed

Carrier # Fed 794176252860

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

December 29, 2010

Liz Givens
TraceAnalysis, Inc.
6701 Aberdeen Avenue, Suite 9
Lubbock, TX 79424

RE: Project: 10121617
Pace Project No.: 3038884

Dear Liz Givens:
Enclosed are the analytical results for sample(s) received by the laboratory on December 17, 2010. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jacquelyn Collins

jacquelyn.collins@pacelabs.com
Project Manager

Enclosures

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: 10121617
Pace Project No.: 3038884

Pennsylvania Certification IDs
1638 Roseytown Road Suites 2,3&4, Greensburg, PA 15601
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California/NELAC Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH 0694
Delaware Certification
Florida/NELAC Certification #: E87683
Guam/PADEP Certification
Hawaii/PADEP Certification
Idaho Certification
Illinois/PADEP Certification
Indiana/PADEP Certification
Iowa Certification #: 391
Kansas/NELAC Certification #: E-10358
Kentucky Certification #: 90133
Louisiana/NELAC Certification #: LA080002
Louisiana/NELAC Certification #: 4086
Maine Certification #: PA0091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nevada Certification
New Hampshire/NELAC Certification #: 2976
New Jersey/NELAC Certification #: PA 051
New Mexico Certification
New York/NELAC Certification #: 10888
North Carolina Certification #: 42706
Oregon/NELAC Certification #: PA200002
Pennsylvania/NELAC Certification #: 65-00282
Puerto Rico Certification #: PA01457
South Dakota Certification
Tennessee Certification #: TN2867
Texas/NELAC Certification #: T104704188-09 TX
Utah/NELAC Certification #: ANTE
Virgin Island/PADEP Certification
Virginia Certification #: 00112
Washington Certification #: C1941
West Virginia Certification #: 143
Wisconsin/PADEP Certification
Wyoming Certification #: 8TMS-Q

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: 10121617
Pace Project No.: 3038884

Lab ID	Sample ID	Matrix	Date Collected	Date Received
3038884001	253554	Water	12/15/10 09:24	12/17/10 11:00

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Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: 10121617
Pace Project No.: 3038884

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
3038884001	253554	EPA 903.1	RMD	1	PASI-PA
		EPA 904.0	DJL	1	PASI-PA

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Greensburg, PA 15601
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PROJECT NARRATIVE

Project: 10121617
Pace Project No.: 3038884

Method: EPA 903.1
Description: 903.1 Radium 226
Client: TraceAnalysis, Inc.
Date: December 29, 2010

General Information:
1 sample was analyzed for EPA 903.1. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

PROJECT NARRATIVE

Project: 10121617
Pace Project No.: 3038884

Method: EPA 904.0
Description: 904.0 Radium 228
Client: TraceAnalysis, Inc.
Date: December 29, 2010

General Information:
1 sample was analyzed for EPA 904.0. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: RADC/7058

1c: MDC was not achieved. Sample was prepared at reduced volume due to matrix issue.
- 253554 (Lab ID: 3038884001)
  - Radium-228

This data package has been reviewed for quality and completeness and is approved for release.

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS

Project: 10121617
Pace Project No.: 3038884

Sample: 253554 Lab ID: **3038884001** Collected: 12/15/10 09:24 Received: 12/17/10 11:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**1.49 ± 1.48 (1.01)**	pCi/L	12/28/10 13:48	13982-63-3	
Radium-228	EPA 904.0	**4.16 ± 1.71 (2.69)**	pCi/L	12/28/10 11:56	15262-20-1	1c

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA

Project: 10121617
Pace Project No.: 3038884

QC Batch: RADC/7055
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Associated Lab Samples: 3038884001

METHOD BLANK: 250956
Matrix: Water
Associated Lab Samples: 3038884001

Parameter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Radium-226	-0.204 ± 0.301 (0.818)	pCi/L	12/28/10 12:48	

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QUALITY CONTROL DATA

Project: 10121617
Pace Project No.: 3038884

QC Batch: RADC/7058
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Associated Lab Samples: 3038884001

METHOD BLANK: 250959
Matrix: Water
Associated Lab Samples: 3038884001

Parameter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Radium-228	0.911 ± 0.528 (0.978)	pCi/L	12/28/10 11:54	

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Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: 10121617
Pace Project No.: 3038884

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty

(MDC) - Minimum Detectable Concentration

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

ANALYTE QUALIFIERS

1c MDC was not achieved. Sample was prepared at reduced volume due to matrix issue.

LAB Order ID # ____________ Page ____ of ____

TraceAnalysis, Inc.

email: lab@traceanalysis.com

6701 Aberdeen Avenue, Suite 9, Lubbock, Texas 79424, Tel (806) 794-1296, Fax (806) 794-1298, 1 (800) 378-1296

5002 Basin Street, Suite A1, Midland, Texas 79703, Tel (432) 689-6301, Fax (432) 689-6313

200 East Sunset Rd., Suite E, El Paso, Texas 79922, Tel (915) 585-3443, Fax (915) 585-4944, 1 (888) 588-3443

BioAquatic Testing, 2501 Mayes Rd., Ste 100, Carrollton, Texas 75006, Tel (972) 242-7750

Company Name: Phone #:

Address: (Street, City, Zip) Fax #:

Contact Person: Liz Owens E-mail:

Invoice to: (If different from above)

Project #: Project Name:

Project Location (including state): Sampler Signature:

ANALYSIS REQUEST 3038884
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume / Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCl	HNO_3	H_2SO_4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
	253564	2		X					X				[illegible]	12/15/10	9:24

MTBE 8021 / 602 / 8260 / 624	BTEX 8021 / 602 / 8260 / 624	TPH 418.1 / TX1005 / TX1005 Ext(C35)	TPH 8015 GRO / DRO / TVHC	PAH 8270 / 625	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260 / 624	GC/MS Semi. Vol. 8270 / 625	PCB's 8082 / 608	Pesticides 8081 / 608	BOD, TSS, pH	Moisture Content	Cl, Fl, S04, NO3, NO2, Alkalinity	Na, Ca, Mg, K, TDS, EC	Sodium 836 + 238				Turn Around Time if different from standard	Hold
																			X					

Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	Temp
								INST ___ °C OBS ___ °C COR ___ °C
								INST ___ °C OBS ___ °C COR ___ °C
[illegible]	Trace Lubbock	Trace Lubbock	3:30	Peter Molina	Pace	12/17/10	1100	INST ___ °C OBS ___ °C COR ___ °C

LAB USE ONLY

Intact Y / N

Headspace Y / N / NA

Log-in-Review ____

REMARKS: 10121617 Pace

☐ Dry Weight Basis Required
☐ TRRP Report Required
☐ Check If Special Reporting Limits Are Needed

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C. O. C.

Carrier # ____________

ORIGINAL COPY

MBC

Sample Condition Upon Receipt

Pace Analytical

Client Name: Trau Analysis Project # 3038884

Courier: [X] Fed Ex [ ] UPS [ ] USPS [ ] Client [ ] Commercial [ ] Pace Other _____

Tracking #: 7942 2953 7122

Optional
Proj. Due Date:
Proj. Name:

Custody Seal on Cooler/Box Present: [X] yes [ ] no Seals Intact: [X] yes [ ] no

Packing Material: [X] Bubble Wrap [ ] Bubble Bags [ ] None [ ] Other

Thermometer Used 3 5 Type of Ice: Wet Blue (None) [ ] Samples on ice, cooling process has begun

Cooler Temperature N/A Biological Tissue is Frozen: Yes No

Date and initials of person examining contents: MBC 12/15/10

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	[X] Yes [ ] No [ ] N/A	1.
Chain of Custody Filled Out:	[X] Yes [ ] No [ ] N/A	2.
Chain of Custody Relinquished:	[X] Yes [ ] No [ ] N/A	3.
Sampler Name & Signature on COC:	[ ] Yes [X] No [ ] N/A	4.
Samples Arrived within Hold Time:	[X] Yes [ ] No [ ] N/A	5.
Short Hold Time Analysis (<72hr):	[ ] Yes [X] No [ ] N/A	6.
Rush Turn Around Time Requested:	[ ] Yes [X] No [ ] N/A	7.
Sufficient Volume:	[X] Yes [ ] No [ ] N/A	8.
Correct Containers Used:	[X] Yes [ ] No [ ] N/A	9.
-Pace Containers Used:	[ ] Yes [X] No [ ] N/A	
Containers Intact:	[X] Yes [ ] No [ ] N/A	10.
Filtered volume received for Dissolved tests	[ ] Yes [ ] No [X] N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: Brine Water	[X] Yes [ ] No [ ] N/A	12.
All containers needing preservation have been checked	[X] Yes [ ] No [ ] N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	[X] Yes [ ] No [ ] N/A	HNO3
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	[ ] Yes [X] No	Initial when completed MBC / Lot # of added preservative
Samples checked for dechlorination:	[ ] Yes [ ] No [X] N/A	14.
Headspace in VOA Vials (>6mm):	[ ] Yes [ ] No [X] N/A	15.
Trip Blank Present:	[ ] Yes [ ] No [X] N/A	16.
Trip Blank Custody Seals Present	[ ] Yes [ ] No [X] N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 12/20/10

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Cation-Anion Balance Sheet

DATE: 12/31/2010

Sample #	Calcium ppm	Magnesium ppm	Sodium ppm	Potassium ppm	Alkalinity ppm	Sulfate ppm	Chloride ppm	Nitrate-N ppm	Fluoride ppm	Bromide ppm	TDS ppm	EC µMHOs/cm
253554	1330	863	121000	1460	90.00	4690	170000	0	0		300000	425000

Sample #	Calcium in meq/L	Magnesium in meq/L	Sodium in meq/L	Potassium in meq/L	Alkalinity in meq/L	Sulfate in meq/L	Chloride in meq/L	Nitrate-N in meq/L	Fluoride in meq/L	Bromide in meq/L	Total Cations in meq/L	Total Anions in meq/L	Percentage Error
253554	66.37	71.02	5263.50	37.35	1.80	97.65	4795.70	0.00	0.00	0.00	5438.23	4895.15	10.51

	EC/Cation	EC/Anion
253554	543823.007	489514.58

range 382500 to 467500

TDS/EC	TDS/Cat		TDS/Anion
0.71	0.55		0.61

needs to be 0.55-0.77

APPENDIX C

CITY OF EUNICE WATER DATA

Summary Report

Wayne Price
Key Energy Services-Eunice

P.O. Box
Eunice, NM 88231

Report Date: December 29, 2010

Work Order: 10121616

Project Location: Key Brine Well BE-28, Eunice, NM
Project Name: Brine Well BE-28
Project Number: 121510-A

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
253553	BW-28 Fresh Water	water	2010-12-13	09:19	2010-12-16

Sample: 253553 - BW-28 Fresh Water

Param	Flag	Result	Units	RL
Total Silver		<0.00500	mg/L	0.00500
Total Aluminum		**0.0600**	mg/L	0.0500
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1.00
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1.00
Bicarbonate Alkalinity		**180**	mg/L as CaCo3	4.00
Total Alkalinity		**180**	mg/L as CaCo3	4.00
Total Arsenic		<0.0100	mg/L	0.0100
Total Boron		**0.178**	mg/L	0.0100
Total Barium		**0.0660**	mg/L	0.0100
Total Cadmium		<0.00500	mg/L	0.00500
Total Cobalt		<0.00500	mg/L	0.00500
Specific Conductance		**742**	uMHOS/cm	0.00
Total Chromium		<0.0100	mg/L	0.0100
Total Copper		<0.00500	mg/L	0.00500
Density		**0.994**	g/ml	0.00
Total Iron		**0.0100**	mg/L	0.0100
Total Mercury		<0.000200	mg/L	0.000200
Chloride		**57.7**	mg/L	2.50
Fluoride		<2.50	mg/L	0.500
Sulfate		**55.7**	mg/L	2.50

continued ...

sample 253553 continued ...

Param	Flag	Result	Units	RL
Total Manganese		<0.00500	mg/L	0.00500
Total Molybdenum		<0.0500	mg/L	0.0500
Total Nickel		<0.0100	mg/L	0.0100
Nitrite-N		<2.50	mg/L	0.500
Nitrate-N		<2.50	mg/L	0.500
Total Lead		<0.00500	mg/L	0.00500
pH		**8.02**	s.u.	2.00
Dissolved Calcium		**46.0**	mg/L	1.00
Dissolved Magnesium		<1.00	mg/L	1.00
Dissolved Potassium		**1.08**	mg/L	1.00
Dissolved Sodium		**41.2**	mg/L	1.00
Total Selenium		<0.0200	mg/L	0.0200
Total Dissolved Solids		**453.0**	mg/L	10.00
Total Cyanide		<0.0150	mg/L	0.0150
Total Uranium		<0.0300	mg/L	0.0300
Total Zinc		**0.00800**	mg/L	0.00500

TRACEANALYSIS, INC.

Certifications

WBENC: 237019 **HUB:** 1752439743100-86536 **DBE:** VN 20657
NCTRCA WFWB38444Y0909

NELAP Certifications

Lubbock: T104704219-08-TX LELAP-02003 Kansas E-10317 **El Paso:** T104704221-08-TX LELAP-02002 **Midland:** T104704392-08-TX

Analytical and Quality Control Report

Wayne Price
Key Energy Services-Eunice

P.O. Box
Eunice, NM, 88231

Report Date: December 29, 2010

Work Order: 10121616

Project Location: Key Brine Well BE-28, Eunice, NM
Project Name: Brine Well BE-28
Project Number: 121510-A

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
253553	BW-28 Fresh Water	water	2010-12-13	09:19	2010-12-16

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Dr. Blair Leftwich, Director
Dr. Michael Abel, Project Manager

Standard Flags

B - The sample contains less than ten times the concentration found in the method blank.

Case Narrative

Samples for project Brine Well BE-28 were received by TraceAnalysis, Inc. on 2010-12-16 and assigned to work order 10121616. Samples for work order 10121616 were received intact at a temperature of 1.2 C.

Samples were analyzed for the following tests using their respective methods.

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
Ag, Total	S 6010C	65389	2010-12-16 at 16:28	76390	2010-12-22 at 10:19
Alkalinity	SM 2320B	65429	2010-12-17 at 15:52	76288	2010-12-17 at 15:52
Al, Total	S 6010C	65389	2010-12-16 at 16:28	76390	2010-12-22 at 10:19
As, Total	S 6010C	65389	2010-12-16 at 16:28	76390	2010-12-22 at 10:19
Ba, Total	S 6010C	65389	2010-12-16 at 16:28	76390	2010-12-22 at 10:19
B, Total	S 6010C	65389	2010-12-16 at 16:28	76390	2010-12-22 at 10:19
Ca, Dissolved	S 6010C	65401	2010-12-17 at 07:37	76391	2010-12-22 at 10:21
Cd, Total	S 6010C	65389	2010-12-16 at 16:28	76390	2010-12-22 at 10:19
Chloride (IC)	E 300.0	65475	2010-12-17 at 11:19	76350	2010-12-21 at 22:37
Conductivity	SM 2510B	65411	2010-12-17 at 11:00	76268	2010-12-17 at 11:56
Co, Total	S 6010C	65389	2010-12-16 at 16:28	76390	2010-12-22 at 10:19
Cr, Total	S 6010C	65389	2010-12-16 at 16:28	76390	2010-12-22 at 10:19
Cu, Total	S 6010C	65389	2010-12-16 at 16:28	76390	2010-12-22 at 10:19
Density	ASTM D854-92	65576	2010-12-24 at 11:02	76481	2010-12-24 at 11:03
Fe, Total	S 6010C	65389	2010-12-16 at 16:28	76390	2010-12-22 at 10:19
Fluoride (IC)	E 300.0	65475	2010-12-17 at 11:19	76350	2010-12-21 at 22:37
Hg, Total	S 7470A	65488	2010-12-21 at 15:51	76401	2010-12-22 at 12:27
K, Dissolved	S 6010C	65401	2010-12-17 at 07:37	76391	2010-12-22 at 10:21
Mg, Dissolved	S 6010C	65401	2010-12-17 at 07:37	76391	2010-12-22 at 10:21
Mn, Total	S 6010C	65389	2010-12-16 at 16:28	76390	2010-12-22 at 10:19
Mo, Total	S 6010C	65389	2010-12-16 at 16:28	76390	2010-12-22 at 10:19
Na, Dissolved	S 6010C	65401	2010-12-17 at 07:37	76391	2010-12-22 at 10:21
Ni, Total	S 6010C	65389	2010-12-16 at 16:28	76390	2010-12-22 at 10:19
NO2 (IC)	E 300.0	65475	2010-12-17 at 11:19	76350	2010-12-21 at 22:37
NO3 (IC)	E 300.0	65475	2010-12-17 at 11:19	76350	2010-12-21 at 22:37
Pb, Total	S 6010C	65389	2010-12-16 at 16:28	76390	2010-12-22 at 10:19
pH	SM 4500-H+	65420	2010-12-17 at 13:09	76278	2010-12-17 at 13:10
Se, Total	S 6010C	65389	2010-12-16 at 16:28	76390	2010-12-22 at 10:19
SO4 (IC)	E 300.0	65475	2010-12-17 at 11:19	76350	2010-12-21 at 22:37
TDS	SM 2540C	65632	2010-12-23 at 10:51	76543	2010-12-29 at 10:53
Total Cyanide	SM 4500-CN C,E	65513	2010-12-22 at 13:45	76406	2010-12-22 at 13:47
U, Total	S 6010C	65389	2010-12-16 at 16:28	76390	2010-12-22 at 10:19
Zn, Total	S 6010C	65389	2010-12-16 at 16:28	76390	2010-12-22 at 10:19

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order

10121616 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Analytical Report

Sample: 253553 - BW-28 Fresh Water

Laboratory:	Lubbock				
Analysis:	Ag, Total	Analytical Method:	S 6010C	Prep Method:	S 3010A
QC Batch:	76390	Date Analyzed:	2010-12-22	Analyzed By:	RR
Prep Batch:	65389	Sample Preparation:	2010-12-17	Prepared By:	KV

Parameter	Flag	Result	RL	Units	Dilution	RL
Total Silver		<0.00500		mg/L	1	0.00500

Sample: 253553 - BW-28 Fresh Water

Laboratory:	Lubbock				
Analysis:	Al, Total	Analytical Method:	S 6010C	Prep Method:	S 3010A
QC Batch:	76390	Date Analyzed:	2010-12-22	Analyzed By:	RR
Prep Batch:	65389	Sample Preparation:	2010-12-17	Prepared By:	KV

Parameter	Flag	Result	RL	Units	Dilution	RL
Total Aluminum		0.0600		mg/L	1	0.0500

Sample: 253553 - BW-28 Fresh Water

Laboratory:	Lubbock				
Analysis:	Alkalinity	Analytical Method:	SM 2320B	Prep Method:	N/A
QC Batch:	76288	Date Analyzed:	2010-12-17	Analyzed By:	CB
Prep Batch:	65429	Sample Preparation:		Prepared By:	CB

Parameter	Flag	Result	RL	Units	Dilution	RL
Hydroxide Alkalinity		<1.00		mg/L as CaCo3	1	1.00
Carbonate Alkalinity		<1.00		mg/L as CaCo3	1	1.00
Bicarbonate Alkalinity		180		mg/L as CaCo3	1	4.00
Total Alkalinity		180		mg/L as CaCo3	1	4.00

Sample: 253553 - BW-28 Fresh Water

Laboratory:	Lubbock				
Analysis:	As, Total	Analytical Method:	S 6010C	Prep Method:	S 3010A
QC Batch:	76390	Date Analyzed:	2010-12-22	Analyzed By:	RR
Prep Batch:	65389	Sample Preparation:	2010-12-17	Prepared By:	KV

Parameter	Flag	RL Result	Units	Dilution	RL
Total Arsenic		<0.0100	mg/L	1	0.0100

Sample: 253553 - BW-28 Fresh Water

Laboratory:	Lubbock				
Analysis:	B, Total	Analytical Method:	S 6010C	Prep Method:	S 3010A
QC Batch:	76390	Date Analyzed:	2010-12-22	Analyzed By:	RR
Prep Batch:	65389	Sample Preparation:	2010-12-17	Prepared By:	KV

Parameter	Flag	RL Result	Units	Dilution	RL
Total Boron		0.178	mg/L	1	0.0100

Sample: 253553 - BW-28 Fresh Water

Laboratory:	Lubbock				
Analysis:	Ba, Total	Analytical Method:	S 6010C	Prep Method:	S 3010A
QC Batch:	76390	Date Analyzed:	2010-12-22	Analyzed By:	RR
Prep Batch:	65389	Sample Preparation:	2010-12-17	Prepared By:	KV

Parameter	Flag	RL Result	Units	Dilution	RL
Total Barium		0.0660	mg/L	1	0.0100

Sample: 253553 - BW-28 Fresh Water

Laboratory:	Lubbock				
Analysis:	Cd, Total	Analytical Method:	S 6010C	Prep Method:	S 3010A
QC Batch:	76390	Date Analyzed:	2010-12-22	Analyzed By:	RR
Prep Batch:	65389	Sample Preparation:	2010-12-17	Prepared By:	KV

Parameter	Flag	RL Result	Units	Dilution	RL
Total Cadmium		<0.00500	mg/L	1	0.00500

Sample: 253553 - BW-28 Fresh Water

Laboratory:	Lubbock				
Analysis:	Co, Total	Analytical Method:	S 6010C	Prep Method:	S 3010A
QC Batch:	76390	Date Analyzed:	2010-12-22	Analyzed By:	RR
Prep Batch:	65389	Sample Preparation:	2010-12-17	Prepared By:	KV

Parameter	Flag	RL Result	Units	Dilution	RL
Total Cobalt		<0.00500	mg/L	1	0.00500

Sample: 253553 - BW-28 Fresh Water

Laboratory:	Lubbock				
Analysis:	Conductivity	Analytical Method:	SM 2510B	Prep Method:	N/A
QC Batch:	76268	Date Analyzed:	2010-12-17	Analyzed By:	PG
Prep Batch:	65411	Sample Preparation:	2010-12-17	Prepared By:	PG

Parameter	Flag	RL Result	Units	Dilution	RL
Specific Conductance		742	uMHOS/cm	1	0.00

Sample: 253553 - BW-28 Fresh Water

Laboratory:	Lubbock				
Analysis:	Cr, Total	Analytical Method:	S 6010C	Prep Method:	S 3010A
QC Batch:	76390	Date Analyzed:	2010-12-22	Analyzed By:	RR
Prep Batch:	65389	Sample Preparation:	2010-12-17	Prepared By:	KV

Parameter	Flag	RL Result	Units	Dilution	RL
Total Chromium		<0.0100	mg/L	1	0.0100

Sample: 253553 - BW-28 Fresh Water

Laboratory:	Lubbock				
Analysis:	Cu, Total	Analytical Method:	S 6010C	Prep Method:	S 3010A
QC Batch:	76390	Date Analyzed:	2010-12-22	Analyzed By:	RR
Prep Batch:	65389	Sample Preparation:	2010-12-17	Prepared By:	KV

Parameter	Flag	RL Result	Units	Dilution	RL
Total Copper		<0.00500	mg/L	1	0.00500

Sample: 253553 - BW-28 Fresh Water

Laboratory:	Lubbock				
Analysis:	Density	Analytical Method:	ASTM D854-92	Prep Method:	N/A
QC Batch:	76481	Date Analyzed:	2010-12-24	Analyzed By:	AH
Prep Batch:	65576	Sample Preparation:	2010-12-24	Prepared By:	AH

Parameter	Flag	RL Result	Units	Dilution	RL
Density		0.994	g/ml	1	0.00

Sample: 253553 - BW-28 Fresh Water

Laboratory: Lubbock
Analysis: Fe, Total
QC Batch: 76390
Prep Batch: 65389

Analytical Method: S 6010C
Date Analyzed: 2010-12-22
Sample Preparation: 2010-12-17

Prep Method: S 3010A
Analyzed By: RR
Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Total Iron		0.0100	mg/L	1	0.0100

Sample: 253553 - BW-28 Fresh Water

Laboratory: Lubbock
Analysis: Hg, Total
QC Batch: 76401
Prep Batch: 65488

Analytical Method: S 7470A
Date Analyzed: 2010-12-22
Sample Preparation: 2010-12-21

Prep Method: N/A
Analyzed By: TP
Prepared By: TP

Parameter	Flag	RL Result	Units	Dilution	RL
Total Mercury		<0.000200	mg/L	1	0.000200

Sample: 253553 - BW-28 Fresh Water

Laboratory: Lubbock
Analysis: Ion Chromatography
QC Batch: 76350
Prep Batch: 65475

Analytical Method: E 300.0
Date Analyzed: 2010-12-21
Sample Preparation: 2010-12-17

Prep Method: N/A
Analyzed By: PG
Prepared By: PG

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		57.7	mg/L	5	2.50
Fluoride		<2.50	mg/L	5	0.500
Sulfate		55.7	mg/L	5	2.50

Sample: 253553 - BW-28 Fresh Water

Laboratory:	Lubbock				
Analysis:	Mn, Total	Analytical Method:	S 6010C	Prep Method:	S 3010A
QC Batch:	76390	Date Analyzed:	2010-12-22	Analyzed By:	RR
Prep Batch:	65389	Sample Preparation:	2010-12-17	Prepared By:	KV

Parameter	Flag	Result	RL Units	Dilution	RL
Total Manganese		<0.00500	mg/L	1	0.00500

Sample: 253553 - BW-28 Fresh Water

Laboratory:	Lubbock				
Analysis:	Mo, Total	Analytical Method:	S 6010C	Prep Method:	S 3010A
QC Batch:	76390	Date Analyzed:	2010-12-22	Analyzed By:	RR
Prep Batch:	65389	Sample Preparation:	2010-12-17	Prepared By:	KV

Parameter	Flag	Result	RL Units	Dilution	RL
Total Molybdenum		<0.0500	mg/L	1	0.0500

Sample: 253553 - BW-28 Fresh Water

Laboratory:	Lubbock				
Analysis:	Ni, Total	Analytical Method:	S 6010C	Prep Method:	S 3010A
QC Batch:	76390	Date Analyzed:	2010-12-22	Analyzed By:	RR
Prep Batch:	65389	Sample Preparation:	2010-12-17	Prepared By:	KV

Parameter	Flag	Result	RL Units	Dilution	RL
Total Nickel		<0.0100	mg/L	1	0.0100

Sample: 253553 - BW-28 Fresh Water

Laboratory:	Lubbock				
Analysis:	NO2 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	76350	Date Analyzed:	2010-12-21	Analyzed By:	PG
Prep Batch:	65475	Sample Preparation:	2010-12-17	Prepared By:	PG

Parameter	Flag	Result	RL Units	Dilution	RL
Nitrite-N		<2.50	mg/L	5	0.500

Sample: 253553 - BW-28 Fresh Water

Laboratory:	Lubbock				
Analysis:	NO3 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	76350	Date Analyzed:	2010-12-21	Analyzed By:	PG
Prep Batch:	65475	Sample Preparation:	2010-12-17	Prepared By:	PG

Parameter	Flag	Result	RL	Units	Dilution	RL
Nitrate-N		<2.50		mg/L	5	0.500

Sample: 253553 - BW-28 Fresh Water

Laboratory:	Lubbock				
Analysis:	Pb, Total	Analytical Method:	S 6010C	Prep Method:	S 3010A
QC Batch:	76390	Date Analyzed:	2010-12-22	Analyzed By:	RR
Prep Batch:	65389	Sample Preparation:	2010-12-17	Prepared By:	KV

Parameter	Flag	Result	RL	Units	Dilution	RL
Total Lead		<0.00500		mg/L	1	0.00500

Sample: 253553 - BW-28 Fresh Water

Laboratory:	Lubbock				
Analysis:	pH	Analytical Method:	SM 4500-H+	Prep Method:	N/A
QC Batch:	76278	Date Analyzed:	2010-12-17	Analyzed By:	CB
Prep Batch:	65420	Sample Preparation:		Prepared By:	CB

Parameter	Flag	Result	RL	Units	Dilution	RL
pH		8.02		s.u.	1	2.00

Sample: 253553 - BW-28 Fresh Water

Laboratory:	Lubbock				
Analysis:	Salts, Dissolved	Analytical Method:	S 6010C	Prep Method:	S 3005A
QC Batch:	76391	Date Analyzed:	2010-12-22	Analyzed By:	RR
Prep Batch:	65401	Sample Preparation:	2010-12-17	Prepared By:	KV

Parameter	Flag	Result	RL	Units	Dilution	RL
Dissolved Calcium		46.0		mg/L	1	1.00
Dissolved Magnesium		<1.00		mg/L	1	1.00

continued ...

sample 253553 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Potassium		**1.08**	mg/L	1	1.00
Dissolved Sodium		**41.2**	mg/L	1	1.00

Sample: 253553 - BW-28 Fresh Water

Laboratory:	Lubbock				
Analysis:	Se, Total	Analytical Method:	S 6010C	Prep Method:	S 3010A
QC Batch:	76390	Date Analyzed:	2010-12-22	Analyzed By:	RR
Prep Batch:	65389	Sample Preparation:	2010-12-17	Prepared By:	KV

Parameter	Flag	RL Result	Units	Dilution	RL
Total Selenium		<0.0200	mg/L	1	0.0200

Sample: 253553 - BW-28 Fresh Water

Laboratory:	Lubbock				
Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	76543	Date Analyzed:	2010-12-29	Analyzed By:	PG
Prep Batch:	65632	Sample Preparation:	2010-12-24	Prepared By:	PG

Parameter	Flag	RL Result	Units	Dilution	RL
Total Dissolved Solids		453.0	mg/L	1	10.00

Sample: 253553 - BW-28 Fresh Water

Laboratory:	Lubbock				
Analysis:	Total Cyanide	Analytical Method:	SM 4500-CN C,E	Prep Method:	N/A
QC Batch:	76406	Date Analyzed:	2010-12-22	Analyzed By:	AH
Prep Batch:	65513	Sample Preparation:	2010-12-22	Prepared By:	AH

Parameter	Flag	RL Result	Units	Dilution	RL
Total Cyanide		<0.0150	mg/L	1	0.0150

Sample: 253553 - BW-28 Fresh Water

Laboratory:	Lubbock				
Analysis:	U, Total	Analytical Method:	S 6010C	Prep Method:	S 3010A
QC Batch:	76390	Date Analyzed:	2010-12-22	Analyzed By:	RR
Prep Batch:	65389	Sample Preparation:	2010-12-17	Prepared By:	KV

Parameter	Flag	RL Result	Units	Dilution	RL
Total Uranium		<0.0300	mg/L	1	0.0300

Sample: 253553 - BW-28 Fresh Water

Laboratory:	Lubbock				
Analysis:	Zn, Total	Analytical Method:	S 6010C	Prep Method:	S 3010A
QC Batch:	76390	Date Analyzed:	2010-12-22	Analyzed By:	RR
Prep Batch:	65389	Sample Preparation:	2010-12-17	Prepared By:	KV

Parameter	Flag	RL Result	Units	Dilution	RL
Total Zinc		0.00800	mg/L	1	0.00500

Method Blank (1) QC Batch: 76268

QC Batch:	76268	Date Analyzed:	2010-12-17	Analyzed By:	PG
Prep Batch:	65411	QC Preparation:	2010-12-17	Prepared By:	PG

Parameter	Flag	MDL Result	Units	RL
Specific Conductance		2.33	uMIIOS/cm	

Method Blank (1) QC Batch: 76288

QC Batch:	76288	Date Analyzed:	2010-12-17	Analyzed By:	CB
Prep Batch:	65429	QC Preparation:	2010-12-17	Prepared By:	CB

Parameter	Flag	MDL Result	Units	RL
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1
Bicarbonate Alkalinity		<4.00	mg/L as CaCo3	4
Total Alkalinity		<4.00	mg/L as CaCo3	4

Method Blank (1) QC Batch: 76350

QC Batch: 76350 | Date Analyzed: 2010-12-21 | Analyzed By: PG
Prep Batch: 65475 | QC Preparation: 2010-12-17 | Prepared By: PG

Parameter	Flag	MDL Result	Units	RL
Nitrite-N		<0.0334	mg/L	0.5

Method Blank (1) QC Batch: 76350

QC Batch: 76350 | Date Analyzed: 2010-12-21 | Analyzed By: PG
Prep Batch: 65475 | QC Preparation: 2010-12-17 | Prepared By: PG

Parameter	Flag	MDL Result	Units	RL
Nitrate-N		<0.0491	mg/L	0.5

Method Blank (1) QC Batch: 76350

QC Batch: 76350 | Date Analyzed: 2010-12-21 | Analyzed By: PG
Prep Batch: 65475 | QC Preparation: 2010-12-17 | Prepared By: PG

Parameter	Flag	MDL Result	Units	RL
Chloride		<0.0350	mg/L	2.5
Fluoride		<0.0964	mg/L	0.5
Sulfate		<0.596	mg/L	2.5

Method Blank (1) QC Batch: 76390

QC Batch: 76390 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65389 | QC Preparation: 2010-12-16 | Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Total Silver		<0.000469	mg/L	0.005

Method Blank (1) QC Batch: 76390

QC Batch: 76390
Prep Batch: 65389

Date Analyzed: 2010-12-22
QC Preparation: 2010-12-16

Analyzed By: RR
Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Total Aluminum		<0.00982	mg/L	0.05

Method Blank (1) QC Batch: 76390

QC Batch: 76390
Prep Batch: 65389

Date Analyzed: 2010-12-22
QC Preparation: 2010-12-16

Analyzed By: RR
Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Total Arsenic		<0.00465	mg/L	0.01

Method Blank (1) QC Batch: 76390

QC Batch: 76390
Prep Batch: 65389

Date Analyzed: 2010-12-22
QC Preparation: 2010-12-16

Analyzed By: RR
Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Total Boron		<0.00215	mg/L	0.01

Method Blank (1) QC Batch: 76390

QC Batch: 76390
Prep Batch: 65389

Date Analyzed: 2010-12-22
QC Preparation: 2010-12-16

Analyzed By: RR
Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Total Barium		<0.00418	mg/L	0.01

Method Blank (1) QC Batch: 76390

QC Batch: 76390
Prep Batch: 65389

Date Analyzed: 2010-12-22
QC Preparation: 2010-12-16

Analyzed By: RR
Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Total Cadmium		<0.00232	mg/L	0.005

Method Blank (1) QC Batch: 76390

QC Batch: 76390
Prep Batch: 65389

Date Analyzed: 2010-12-22
QC Preparation: 2010-12-16

Analyzed By: RR
Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Total Cobalt		<0.00258	mg/L	0.005

Method Blank (1) QC Batch: 76390

QC Batch: 76390
Prep Batch: 65389

Date Analyzed: 2010-12-22
QC Preparation: 2010-12-16

Analyzed By: RR
Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Total Chromium		<0.00291	mg/L	0.01

Method Blank (1) QC Batch: 76390

QC Batch: 76390
Prep Batch: 65389

Date Analyzed: 2010-12-22
QC Preparation: 2010-12-16

Analyzed By: RR
Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Total Copper		<0.00313	mg/L	0.005

Method Blank (1) QC Batch: 76390

QC Batch: 76390 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65389 | QC Preparation: 2010-12-16 | Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Total Iron		<0.00273	mg/L	0.01

Method Blank (1) QC Batch: 76390

QC Batch: 76390 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65389 | QC Preparation: 2010-12-16 | Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Total Manganese		<0.00423	mg/L	0.005

Method Blank (1) QC Batch: 76390

QC Batch: 76390 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65389 | QC Preparation: 2010-12-16 | Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Total Molybdenum		<0.00164	mg/L	0.05

Method Blank (1) QC Batch: 76390

QC Batch: 76390 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65389 | QC Preparation: 2010-12-16 | Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Total Nickel		<0.00593	mg/L	0.01

Method Blank (1) QC Batch: 76390

QC Batch: 76390
Prep Batch: 65389

Date Analyzed: 2010-12-22
QC Preparation: 2010-12-16

Analyzed By: RR
Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Total Lead		<0.00303	mg/L	0.005

Method Blank (1) QC Batch: 76390

QC Batch: 76390
Prep Batch: 65389

Date Analyzed: 2010-12-22
QC Preparation: 2010-12-16

Analyzed By: RR
Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Total Selenium		<0.00570	mg/L	0.02

Method Blank (1) QC Batch: 76390

QC Batch: 76390
Prep Batch: 65389

Date Analyzed: 2010-12-22
QC Preparation: 2010-12-16

Analyzed By: RR
Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Total Uranium		<0.0136	mg/L	0.03

Method Blank (1) QC Batch: 76390

QC Batch: 76390
Prep Batch: 65389

Date Analyzed: 2010-12-22
QC Preparation: 2010-12-16

Analyzed By: RR
Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Total Zinc		<0.00178	mg/L	0.005

Method Blank (1) QC Batch: 76391

QC Batch: 76391 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65401 | QC Preparation: 2010-12-17 | Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Dissolved Calcium		<0.0134	mg/L	1
Dissolved Magnesium		<0.184	mg/L	1
Dissolved Potassium		<0.0634	mg/L	1
Dissolved Sodium		<0.303	mg/L	1

Method Blank (1) QC Batch: 76401

QC Batch: 76401 | Date Analyzed: 2010-12-22 | Analyzed By: TP
Prep Batch: 65488 | QC Preparation: 2010-12-21 | Prepared By: TP

Parameter	Flag	MDL Result	Units	RL
Total Mercury		<0.0000388	mg/L	0.0002

Method Blank (1) QC Batch: 76406

QC Batch: 76406 | Date Analyzed: 2010-12-22 | Analyzed By: AH
Prep Batch: 65513 | QC Preparation: 2010-12-22 | Prepared By: AH

Parameter	Flag	MDL Result	Units	RL
Total Cyanide		<0.0115	mg/L	0.015

Method Blank (1) QC Batch: 76481

QC Batch: 76481 | Date Analyzed: 2010-12-24 | Analyzed By: AH
Prep Batch: 65576 | QC Preparation: 2010-12-24 | Prepared By: AH

Parameter	Flag	MDL Result	Units	RL
Density		0.994	g/ml	

Method Blank (1) QC Batch: 76543

QC Batch: 76543 | Date Analyzed: 2010-12-29 | Analyzed By: PG
Prep Batch: 65632 | QC Preparation: 2010-12-23 | Prepared By: PG

Parameter	Flag	MDL Result	Units	RL
Total Dissolved Solids		<5.000	mg/L	10

Duplicates (1) Duplicated Sample: 253554

QC Batch: 76278 | Date Analyzed: 2010-12-17 | Analyzed By: CB
Prep Batch: 65420 | QC Preparation: 2010-12-17 | Prepared By: CB

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
pH	6.91	6.91	s.u.	1	0	20

Duplicates (1) Duplicated Sample: 253554

QC Batch: 76481 | Date Analyzed: 2010-12-24 | Analyzed By: AH
Prep Batch: 65576 | QC Preparation: 2010-12-24 | Prepared By: AH

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Density	1.21	1.19	g/ml	1	2	20

Duplicates (1) Duplicated Sample: 253854

QC Batch: 76543 | Date Analyzed: 2010-12-29 | Analyzed By: PG
Prep Batch: 65632 | QC Preparation: 2010-12-23 | Prepared By: PG

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids	2362	2280	mg/L	2	4	10

Laboratory Control Spike (LCS-1)

QC Batch: 76350 | Date Analyzed: 2010-12-21 | Analyzed By: PG
Prep Batch: 65475 | QC Preparation: 2010-12-17 | Prepared By: PG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Nitrite-N	4.98	mg/L	1	5.00	<0.0334	100	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Nitrite-N	4.73	mg/L	1	5.00	<0.0334	95	90 - 110	5	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76350 | Date Analyzed: 2010-12-21 | Analyzed By: PG
Prep Batch: 65475 | QC Preparation: 2010-12-17 | Prepared By: PG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Nitrate-N	4.80	mg/L	1	5.00	<0.0491	96	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Nitrate-N	4.83	mg/L	1	5.00	<0.0491	97	90 - 110	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76350 | Date Analyzed: 2010-12-21 | Analyzed By: PG
Prep Batch: 65475 | QC Preparation: 2010-12-17 | Prepared By: PG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	23.9	mg/L	1	25.0	<0.0350	96	90 - 110
Fluoride	5.21	mg/L	1	5.00	<0.0964	104	90 - 110
Sulfate	24.9	mg/L	1	25.0	<0.596	100	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	23.9	mg/L	1	25.0	<0.0350	96	90 - 110	0	20
Fluoride	5.15	mg/L	1	5.00	<0.0964	103	90 - 110	1	20
Sulfate	24.9	mg/L	1	25.0	<0.596	100	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76390 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65389 | QC Preparation: 2010-12-16 | Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Silver	0.125	mg/L	1	0.125	<0.000469	100	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Silver	0.126	mg/L	1	0.125	<0.000469	101	85 - 115	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76390 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65389 | QC Preparation: 2010-12-16 | Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Aluminum	1.01	mg/L	1	1.00	<0.00982	101	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Aluminum	1.02	mg/L	1	1.00	<0.00982	102	85 - 115	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76390 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65389 | QC Preparation: 2010-12-16 | Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Arsenic	0.538	mg/L	1	0.500	<0.00465	108	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Arsenic	0.529	mg/L	1	0.500	<0.00465	106	85 - 115	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76390 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65389 | QC Preparation: 2010-12-16 | Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Boron	0.0460	mg/L	1	0.0500	<0.00215	92	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Boron	0.0510	mg/L	1	0.0500	<0.00215	102	85 - 115	10	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76390 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65389 | QC Preparation: 2010-12-16 | Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Barium	1.02	mg/L	1	1.00	<0.00418	102	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Barium	1.04	mg/L	1	1.00	<0.00418	104	85 - 115	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76390 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65389 | QC Preparation: 2010-12-16 | Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Cadmium	0.265	mg/L	1	0.250	<0.00232	106	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Cadmium	0.259	mg/L	1	0.250	<0.00232	104	85 - 115	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76390
Prep Batch: 65389

Date Analyzed: 2010-12-22
QC Preparation: 2010-12-16

Analyzed By: RR
Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Cobalt	0.268	mg/L	1	0.250	<0.00258	107	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Cobalt	0.269	mg/L	1	0.250	<0.00258	108	85 - 115	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76390
Prep Batch: 65389

Date Analyzed: 2010-12-22
QC Preparation: 2010-12-16

Analyzed By: RR
Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Chromium	0.104	mg/L	1	0.100	<0.00291	104	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Chromium	0.103	mg/L	1	0.100	<0.00291	103	85 - 115	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76390
Prep Batch: 65389

Date Analyzed: 2010-12-22
QC Preparation: 2010-12-16

Analyzed By: RR
Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Copper	0.130	mg/L	1	0.125	<0.00313	104	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Copper	0.127	mg/L	1	0.125	<0.00313	102	85 - 115	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76390 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65389 | QC Preparation: 2010-12-16 | Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Iron	0.526	mg/L	1	0.500	<0.00273	105	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Iron	0.495	mg/L	1	0.500	<0.00273	99	85 - 115	6	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76390 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65389 | QC Preparation: 2010-12-16 | Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Manganese	0.260	mg/L	1	0.250	<0.00423	104	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Manganese	0.260	mg/L	1	0.250	<0.00423	104	85 - 115	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76390 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65389 | QC Preparation: 2010-12-16 | Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Molybdenum	0.528	mg/L	1	0.500	<0.00164	106	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Molybdenum	0.528	mg/L	1	0.500	<0.00164	106	85 - 115	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76390 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65389 | QC Preparation: 2010-12-16 | Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Nickel	0.262	mg/L	1	0.250	<0.00593	105	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Nickel	0.263	mg/L	1	0.250	<0.00593	105	85 - 115	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76390 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65389 | QC Preparation: 2010-12-16 | Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Lead	0.526	mg/L	1	0.500	<0.00303	105	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Lead	0.525	mg/L	1	0.500	<0.00303	105	85 - 115	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76390 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65389 | QC Preparation: 2010-12-16 | Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Selenium	0.498	mg/L	1	0.500	<0.00570	100	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Selenium	0.513	mg/L	1	0.500	<0.00570	103	85 - 115	3	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76390 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65389 | QC Preparation: 2010-12-16 | Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Uranium	0.528	mg/L	1	0.500	<0.0136	106	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Uranium	0.526	mg/L	1	0.500	<0.0136	105	85 - 115	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76390 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65389 | QC Preparation: 2010-12-16 | Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Zinc	0.252	mg/L	1	0.250	<0.00178	101	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Zinc	0.259	mg/L	1	0.250	<0.00178	104	85 - 115	3	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76391 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65401 | QC Preparation: 2010-12-17 | Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Calcium	56.1	mg/L	1	52.5	<0.0134	107	85 - 115
Dissolved Magnesium	55.1	mg/L	1	52.5	<0.184	105	85 - 115
Dissolved Potassium	53.9	mg/L	1	52.5	<0.0634	103	85 - 115
Dissolved Sodium	53.5	mg/L	1	52.5	<0.303	102	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Calcium	54.0	mg/L	1	52.5	<0.0134	103	85 - 115	4	20
Dissolved Magnesium	53.2	mg/L	1	52.5	<0.184	101	85 - 115	4	20
Dissolved Potassium	52.6	mg/L	1	52.5	<0.0634	100	85 - 115	2	20
Dissolved Sodium	52.2	mg/L	1	52.5	<0.303	99	85 - 115	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76401 | Date Analyzed: 2010-12-22 | Analyzed By: TP
Prep Batch: 65488 | QC Preparation: 2010-12-21 | Prepared By: TP

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Mercury	0.00375	mg/L	1	0.00400	<0.0000388	94	91.4 - 111

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Mercury	0.00406	mg/L	1	0.00400	<0.0000388	102	91.4 - 111	8	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76406 | Date Analyzed: 2010-12-22 | Analyzed By: AH
Prep Batch: 65513 | QC Preparation: 2010-12-22 | Prepared By: AH

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Cyanide	0.101	mg/L	1	0.120	<0.0115	84	83.3 - 116

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Cyanide	0.104	mg/L	1	0.120	<0.0115	87	83.3 - 116	3	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 76543 | Date Analyzed: 2010-12-29 | Analyzed By: PG
Prep Batch: 65632 | QC Preparation: 2010-12-23 | Prepared By: PG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Dissolved Solids	997	mg/L	1	1000	<5.00	100	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Dissolved Solids	1010	mg/L	1	1000	<5.00	101	90 - 110	1	10

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 253553

QC Batch: 76350 | Date Analyzed: 2010-12-21 | Analyzed By: PG
Prep Batch: 65475 | QC Preparation: 2010-12-17 | Prepared By: PG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Nitrite-N	24.3	mg/L	5	25.0	<0.167	97	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Nitrite-N	24.0	mg/L	5	25.0	<0.167	96	90 - 110	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 253553

QC Batch: 76350 | Date Analyzed: 2010-12-21 | Analyzed By: PG
Prep Batch: 65475 | QC Preparation: 2010-12-17 | Prepared By: PG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Nitrate-N	25.8	mg/L	5	25.0	2.16	94	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Nitrate-N	25.8	mg/L	5	25.0	2.16	94	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 253553

QC Batch: 76350 | Date Analyzed: 2010-12-21 | Analyzed By: PG
Prep Batch: 65475 | QC Preparation: 2010-12-17 | Prepared By: PG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	184	mg/L	5	125	57.7	101	90 - 110
Fluoride	24.6	mg/L	5	25.0	0.962	94	90 - 110
Sulfate	183	mg/L	5	125	55.7	102	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	183	mg/L	5	125	57.7	100	90 - 110	0	20
Fluoride	24.8	mg/L	5	25.0	0.962	95	90 - 110	1	20
Sulfate	183	mg/L	5	125	55.7	102	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 253414

QC Batch: 76390
Prep Batch: 65389

Date Analyzed: 2010-12-22
QC Preparation: 2010-12-16

Analyzed By: RR
Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Silver	0.114	mg/L	1	0.125	<0.000469	91	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Silver	0.123	mg/L	1	0.125	<0.000469	98	75 - 125	8	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 253414

QC Batch: 76390
Prep Batch: 65389

Date Analyzed: 2010-12-22
QC Preparation: 2010-12-16

Analyzed By: RR
Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Aluminum	0.963	mg/L	1	1.00	<0.00982	96	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Aluminum	1.06	mg/L	1	1.00	<0.00982	106	75 - 125	10	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 253414

QC Batch: 76390 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65389 | QC Preparation: 2010-12-16 | Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Arsenic	0.657	mg/L	1	0.500	0.221	87	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Arsenic	0.646	mg/L	1	0.500	0.221	85	75 - 125	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 253414

QC Batch: 76390 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65389 | QC Preparation: 2010-12-16 | Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Boron	0.0480	mg/L	1	0.0500	<0.00215	96	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Boron	0.0460	mg/L	1	0.0500	<0.00215	92	75 - 125	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 253414

QC Batch: 76390 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65389 | QC Preparation: 2010-12-16 | Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Barium	6.62	mg/L	1	1.00	5.64	98	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Barium	6.62	mg/L	1	1.00	5.64	98	75 - 125	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 253414

QC Batch: 76390 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65389 | QC Preparation: 2010-12-16 | Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Cadmium	0.229	mg/L	1	0.250	<0.00232	92	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Cadmium	0.235	mg/L	1	0.250	<0.00232	94	75 - 125	3	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 253414

QC Batch: 76390 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65389 | QC Preparation: 2010-12-16 | Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Cobalt	0.226	mg/L	1	0.250	<0.00258	90	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Cobalt	0.240	mg/L	1	0.250	<0.00258	96	75 - 125	6	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 253414

QC Batch: 76390 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65389 | QC Preparation: 2010-12-16 | Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Chromium	0.0930	mg/L	1	0.100	0.01	83	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Chromium	0.0950	mg/L	1	0.100	0.01	85	75 - 125	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 253414

QC Batch: 76390 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65389 | QC Preparation: 2010-12-16 | Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Copper	0.122	mg/L	1	0.125	<0.00313	98	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Copper	0.132	mg/L	1	0.125	<0.00313	106	75 - 125	8	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 253414

QC Batch: 76390 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65389 | QC Preparation: 2010-12-16 | Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Iron	1.99	mg/L	1	0.500	1.5	98	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Iron	2.03	mg/L	1	0.500	1.5	106	75 - 125	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 253414

QC Batch: 76390 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65389 | QC Preparation: 2010-12-16 | Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Manganese	0.242	mg/L	1	0.250	<0.00423	97	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Manganese	0.241	mg/L	1	0.250	<0.00423	96	75 - 125	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 253414

QC Batch: 76390 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65389 | QC Preparation: 2010-12-16 | Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Molybdenum	0.439	mg/L	1	0.500	<0.00164	88	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Molybdenum	0.483	mg/L	1	0.500	<0.00164	97	75 - 125	10	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 253414

QC Batch: 76390 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65389 | QC Preparation: 2010-12-16 | Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Nickel	0.231	mg/L	1	0.250	<0.00593	92	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Nickel	0.240	mg/L	1	0.250	<0.00593	96	75 - 125	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 253414

QC Batch: 76390 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65389 | QC Preparation: 2010-12-16 | Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Lead	0.446	mg/L	1	0.500	<0.00303	89	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Lead	0.469	mg/L	1	0.500	<0.00303	94	75 - 125	5	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 253414

QC Batch: 76390 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65389 | QC Preparation: 2010-12-16 | Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Selenium	0.440	mg/L	1	0.500	<0.00570	88	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Selenium	0.450	mg/L	1	0.500	<0.00570	90	75 - 125	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 253414

QC Batch: 76390 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65389 | QC Preparation: 2010-12-16 | Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Uranium	0.486	mg/L	1	0.500	<0.0136	97	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Uranium	0.511	mg/L	1	0.500	<0.0136	102	75 - 125	5	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 253414

QC Batch: 76390 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65389 | QC Preparation: 2010-12-16 | Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Zinc	0.239	mg/L	1	0.250	<0.00178	96	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Zinc	0.259	mg/L	1	0.250	<0.00178	104	75 - 125	8	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 253432

QC Batch: 76391 | Date Analyzed: 2010-12-22 | Analyzed By: RR
Prep Batch: 65401 | QC Preparation: 2010-12-17 | Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Calcium	72.4	mg/L	1	52.5	22.1	96	75 - 125
Dissolved Magnesium	60.6	mg/L	1	52.5	11.9	93	75 - 125
Dissolved Potassium	60.5	mg/L	1	52.5	2.48	110	75 - 125
Dissolved Sodium	218	mg/L	1	52.5	158	114	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Calcium	73.4	mg/L	1	52.5	22.1	98	75 - 125	1	20
Dissolved Magnesium	61.3	mg/L	1	52.5	11.9	94	75 - 125	1	20
Dissolved Potassium	62.3	mg/L	1	52.5	2.48	114	75 - 125	3	20
Dissolved Sodium	220	mg/L	1	52.5	158	118	75 - 125	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 253418

QC Batch: 76401 | Date Analyzed: 2010-12-22 | Analyzed By: TP
Prep Batch: 65488 | QC Preparation: 2010-12-21 | Prepared By: TP

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Mercury	0.00357	mg/L	1	0.00400	0.00015	86	75 - 122

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Mercury	0.00345	mg/L	1	0.00400	0.00015	82	75 - 122	3	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 253892

QC Batch: 76406 | Date Analyzed: 2010-12-22 | Analyzed By: AH
Prep Batch: 65513 | QC Preparation: 2010-12-22 | Prepared By: AH

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matrix spikes continued ...

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Cyanide	0.0963	mg/L	1	0.120	<0.0115	80	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Cyanide	0.0977	mg/L	1	0.120	<0.0115	81	80 - 120	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Standard (ICV-1)

QC Batch: 76268 Date Analyzed: 2010-12-17 Analyzed By: PG

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		uMHOS/cm	1410	1440	102	90 - 110	2010-12-17

Standard (CCV-1)

QC Batch: 76268 Date Analyzed: 2010-12-17 Analyzed By: PG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		uMHOS/cm	1410	1470	104	90 - 110	2010-12-17

Standard (ICV-1)

QC Batch: 76278 Date Analyzed: 2010-12-17 Analyzed By: CB

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7.00	7.01	100	98 - 102	2010-12-17

Standard (CCV-1)

QC Batch: 76278 Date Analyzed: 2010-12-17 Analyzed By: CB

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7.00	7.02	100	98 - 102	2010-12-17

Standard (ICV-1)

QC Batch: 76288 Date Analyzed: 2010-12-17 Analyzed By: CB

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0.00	10.0		-	2010-12-17
Carbonate Alkalinity		mg/L as CaCo3	0.00	240		-	2010-12-17
Bicarbonate Alkalinity		mg/L as CaCo3	0.00	<4.00		-	2010-12-17
Total Alkalinity		mg/L as CaCo3	250	250	100	90 - 110	2010-12-17

Standard (CCV-1)

QC Batch: 76288 Date Analyzed: 2010-12-17 Analyzed By: CB

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0.00	10.0		-	2010-12-17
Carbonate Alkalinity		mg/L as CaCo3	0.00	240		-	2010-12-17
Bicarbonate Alkalinity		mg/L as CaCo3	0.00	<4.00		-	2010-12-17
Total Alkalinity		mg/L as CaCo3	250	250	100	90 - 110	2010-12-17

Standard (CCV-1)

QC Batch: 76350 Date Analyzed: 2010-12-21 Analyzed By: PG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Nitrite-N		mg/L	5.00	4.99	100	90 - 110	2010-12-21

Standard (CCV-1)

QC Batch: 76350 Date Analyzed: 2010-12-21 Analyzed By: PG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Nitrate-N		mg/L	5.00	4.86	97	90 - 110	2010-12-21

Standard (CCV-1)

QC Batch: 76350 Date Analyzed: 2010-12-21 Analyzed By: PG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	25.0	24.1	96	90 - 110	2010-12-21
Fluoride		mg/L	5.00	5.22	104	90 - 110	2010-12-21
Sulfate		mg/L	25.0	25.0	100	90 - 110	2010-12-21

Standard (CCV-2)

QC Batch: 76350 Date Analyzed: 2010-12-21 Analyzed By: PG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Nitrite-N		mg/L	5.00	4.89	98	90 - 110	2010-12-21

Standard (CCV-2)

QC Batch: 76350 Date Analyzed: 2010-12-21 Analyzed By: PG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Nitrate-N		mg/L	5.00	4.80	96	90 - 110	2010-12-21

Standard (CCV-2)

QC Batch: 76350 Date Analyzed: 2010-12-21 Analyzed By: PG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	25.0	23.7	95	90 - 110	2010-12-21
Fluoride		mg/L	5.00	4.91	98	90 - 110	2010-12-21
Sulfate		mg/L	25.0	24.7	99	90 - 110	2010-12-21

Standard (ICV-1)

QC Batch: 76390 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Silver		mg/L	0.125	0.131	105	90 - 110	2010-12-22

Standard (ICV-1)

QC Batch: 76390 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Aluminum		mg/L	1.00	1.05	105	90 - 110	2010-12-22

Standard (ICV-1)

QC Batch: 76390 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Arsenic		mg/L	1.00	1.07	107	90 - 110	2010-12-22

Standard (ICV-1)

QC Batch: 76390 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Boron		mg/L	1.00	1.04	104	90 - 110	2010-12-22

Standard (ICV-1)

QC Batch: 76390 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Barium		mg/L	1.00	1.03	103	90 - 110	2010-12-22

Standard (ICV-1)

QC Batch: 76390 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Cadmium		mg/L	1.00	1.07	107	90 - 110	2010-12-22

Standard (ICV-1)

QC Batch: 76390 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Cobalt		mg/L	1.00	1.06	106	90 - 110	2010-12-22

Standard (ICV-1)

QC Batch: 76390 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Chromium		mg/L	1.00	1.06	106	90 - 110	2010-12-22

Standard (ICV-1)

QC Batch: 76390 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Copper		mg/L	1.00	1.06	106	90 - 110	2010-12-22

Standard (ICV-1)

QC Batch: 76390 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Iron		mg/L	1.00	1.03	103	90 - 110	2010-12-22

Standard (ICV-1)

QC Batch: 76390 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Manganese		mg/L	1.00	1.06	106	90 - 110	2010-12-22

Standard (ICV-1)

QC Batch: 76390 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Molybdenum		mg/L	1.00	1.08	108	90 - 110	2010-12-22

Standard (ICV-1)

QC Batch: 76390 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Nickel		mg/L	1.00	1.06	106	90 - 110	2010-12-22

Standard (ICV-1)

QC Batch: 76390 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Lead		mg/L	1.00	1.08	108	90 - 110	2010-12-22

Standard (ICV-1)

QC Batch: 76390 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Selenium		mg/L	1.00	1.07	107	90 - 110	2010-12-22

Standard (ICV-1)

QC Batch: 76390 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Uranium		mg/L	1.00	1.06	106	90 - 110	2010-12-22

Standard (ICV-1)

QC Batch: 76390 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Zinc		mg/L	1.00	1.06	106	90 - 110	2010-12-22

Standard (CCV-1)

QC Batch: 76390 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Silver		mg/L	0.125	0.131	105	90 - 110	2010-12-22

Standard (CCV-1)

QC Batch: 76390 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Aluminum		mg/L	1.00	1.04	104	90 - 110	2010-12-22

Standard (CCV-1)

QC Batch: 76390 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Arsenic		mg/L	1.00	1.06	106	90 - 110	2010-12-22

Standard (CCV-1)

QC Batch: 76390 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Boron		mg/L	1.00	1.02	102	90 - 110	2010-12-22

Standard (CCV-1)

QC Batch: 76390 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Barium		mg/L	1.00	1.05	105	90 - 110	2010-12-22

Standard (CCV-1)

QC Batch: 76390 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Cadmium		mg/L	1.00	1.05	105	90 - 110	2010-12-22

Standard (CCV-1)

QC Batch: 76390 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Cobalt		mg/L	1.00	1.06	106	90 - 110	2010-12-22

Standard (CCV-1)

QC Batch: 76390 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Chromium		mg/L	1.00	1.06	106	90 - 110	2010-12-22

Standard (CCV-1)

QC Batch: 76390 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Copper		mg/L	1.00	1.05	105	90 - 110	2010-12-22

Standard (CCV-1)

QC Batch: 76390 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Iron		mg/L	1.00	1.03	103	90 - 110	2010-12-22

Standard (CCV-1)

QC Batch: 76390 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Manganese		mg/L	1.00	1.07	107	90 - 110	2010-12-22

Standard (CCV-1)

QC Batch: 76390 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Molybdenum		mg/L	1.00	1.05	105	90 - 110	2010-12-22

Standard (CCV-1)

QC Batch: 76390 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Nickel		mg/L	1.00	1.06	106	90 - 110	2010-12-22

Standard (CCV-1)

QC Batch: 76390 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Lead		mg/L	1.00	1.06	106	90 - 110	2010-12-22

Standard (CCV-1)

QC Batch: 76390 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Selenium		mg/L	1.00	1.05	105	90 - 110	2010-12-22

Standard (CCV-1)

QC Batch: 76390 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Uranium		mg/L	1.00	1.04	104	90 - 110	2010-12-22

Standard (CCV-1)

QC Batch: 76390 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Zinc		mg/L	1.00	1.05	105	90 - 110	2010-12-22

Standard (ICV-1)

QC Batch: 76391 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	51.0	53.4	105	90 - 110	2010-12-22
Dissolved Magnesium		mg/L	51.0	52.2	102	90 - 110	2010-12-22

continued ...

standard continued ...

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Potassium		mg/L	55.0	57.9	105	90 - 110	2010-12-22
Dissolved Sodium		mg/L	51.0	53.2	104	90 - 110	2010-12-22

Standard (CCV-1)

QC Batch: 76391 Date Analyzed: 2010-12-22 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	51.0	53.6	105	90 - 110	2010-12-22
Dissolved Magnesium		mg/L	51.0	52.9	104	90 - 110	2010-12-22
Dissolved Potassium		mg/L	55.0	57.8	105	90 - 110	2010-12-22
Dissolved Sodium		mg/L	51.0	53.1	104	90 - 110	2010-12-22

Standard (CCV-1)

QC Batch: 76401 Date Analyzed: 2010-12-22 Analyzed By: TP

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Mercury		mg/L	0.00500	0.00496	99	90 - 110	2010-12-22

Standard (CCV-2)

QC Batch: 76401 Date Analyzed: 2010-12-22 Analyzed By: TP

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Mercury		mg/L	0.00500	0.00499	100	90 - 110	2010-12-22

Standard (ICV-1)

QC Batch: 76406 Date Analyzed: 2010-12-22 Analyzed By: AH

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Cyanide		mg/L	0.120	0.106	88	85 - 115	2010-12-22

Standard (CCV-1)

QC Batch: 76406

Date Analyzed: 2010-12-22

Analyzed By: AH

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Cyanide		mg/L	0.120	0.108	90	85 - 115	2010-12-22

LAB Order ID # 10121616   ICE CHEST # 536   COC [illegible]

TraceAnalysis, Inc.

email: lab@traceanalysis.com

6701 Aberdeen Avenue, Suite 9, Lubbock, Texas 79424, Tel (806) 794-1296, Fax (806) 794-1298, 1 (800) 378-1296

5002 Basin Street, Suite A1, Midland, Texas 79703, Tel (432) 689-6301, Fax (432) 689-6313

200 East Sunset Rd, Suite E, El Paso, Texas 79922, Tel (915) 585-3443, Fax (915) 585-4944, 1 (888) 588-3443

BioAquatic ... 2501 Mayes Rd., Ste 100, Carrollton, Texas 75006, Tel ... 242-7750

Company Name: KEY ENERGY
Phone #: 1-505-715-2809
Address: (Street, City, Zip) P.O. BOX 99 EUNICE NM 88231
Fax #: —
Contact Person: WAYNE PRICE
E-mail: WAYNEPRICE77@EARTHLINK.NET
Invoice to: (If different from above) PO BOX 99 EUNICE NM 88231
Project #: 12151O-A
Project Name: BW-28
Project Location (including state): KEY EUNICE, NM BRINE WELL BW-28
Sampler Signature: [signature]

ANALYSIS REQUEST (Circle or Specify Method No.)

Analysis options: MTBE 8021 / 602 / 8260 / 624; BTEX 8021 / 602 / 8260 / 624; TPH 418.1 / TX1005 / TX1005 Ext(C35); TPH 8015 GRO / DRO / TVHC; PAH 8270 / 625; Total Metals Ag As Ba Cd Cr Pb Se Hg 6010/200.7; TCLP Metals Ag As Ba Cd Cr Pb Se Hg; TCLP Volatiles; TCLP Semi Volatiles; TCLP Pesticides; RCI; GC/MS Vol. 8260 / 624; GC/MS Semi. Vol. 8270 / 625; PCB's 8082 / 608; Pesticides 8081 / 608; BOD, TSS, pH; Moisture Content; Cl, F, SO4, NO3, NO2, Alkalinity; Na, Ca, Mg, K, TDS, EC; GEN CHEM, PH, TDS, COND; [illegible]; TRACE METALS + H; CYANIDE; Turn Around Time if different from standard; Hold

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume / Amount	WATER	SOIL	AIR	SLUDGE	HCl	HNO_3	H_2SO_4	NaOH	ICE	NONE	DATE	TIME	Analysis
253553	BW-28 FRESH WATER	1	1 L	X								X	X	12/15/10	7:19	GEN CHEM, PH, TDS, COND
	" " "	2	1 L	X					X			X		"	"	[illegible]
	" " "	1	500 ML	X					X			X		"	"	TRACE METALS + H
	" " "	1	250 ML	X							X	X		"	"	CYANIDE

Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:
WAYNE PRICE	KEY	12/15/10	12:35 PM				
				[signature]	Trace Lubbock	12/16/10	1025

INST / OBS / COR; INST / OBS / COR; INST P, OBS 0.9 °C, COR 1.2 °C

LAB USE ONLY: Intact Y / N; Headspace Y / N / NA; Log-in-Review

REMARKS: COLLECTED FROM EAST LOAD LINE - FW

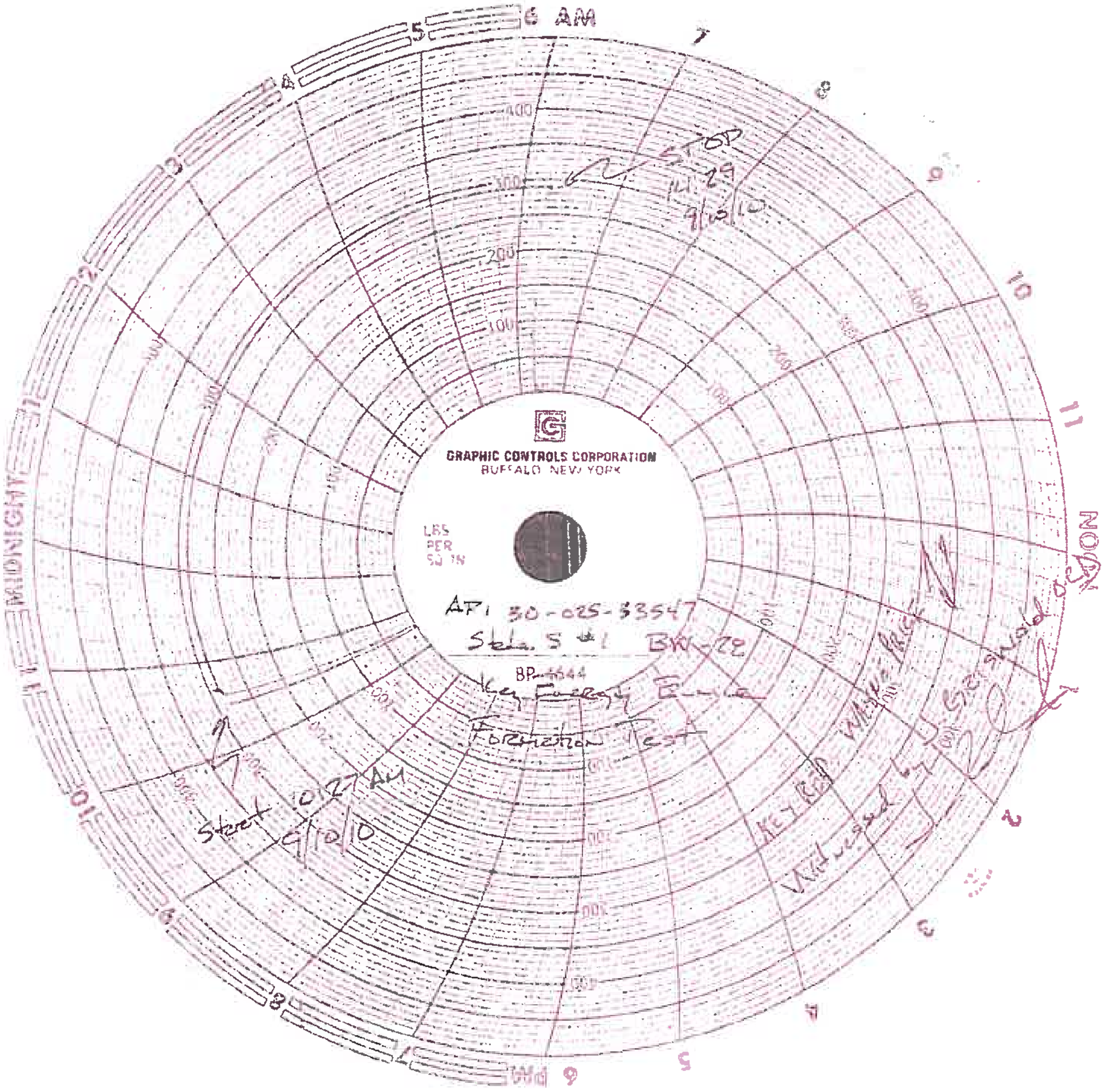
- Dry Weight Basis Required
- TRRP Report Required
- Check if Special Reporting Limits Are Needed

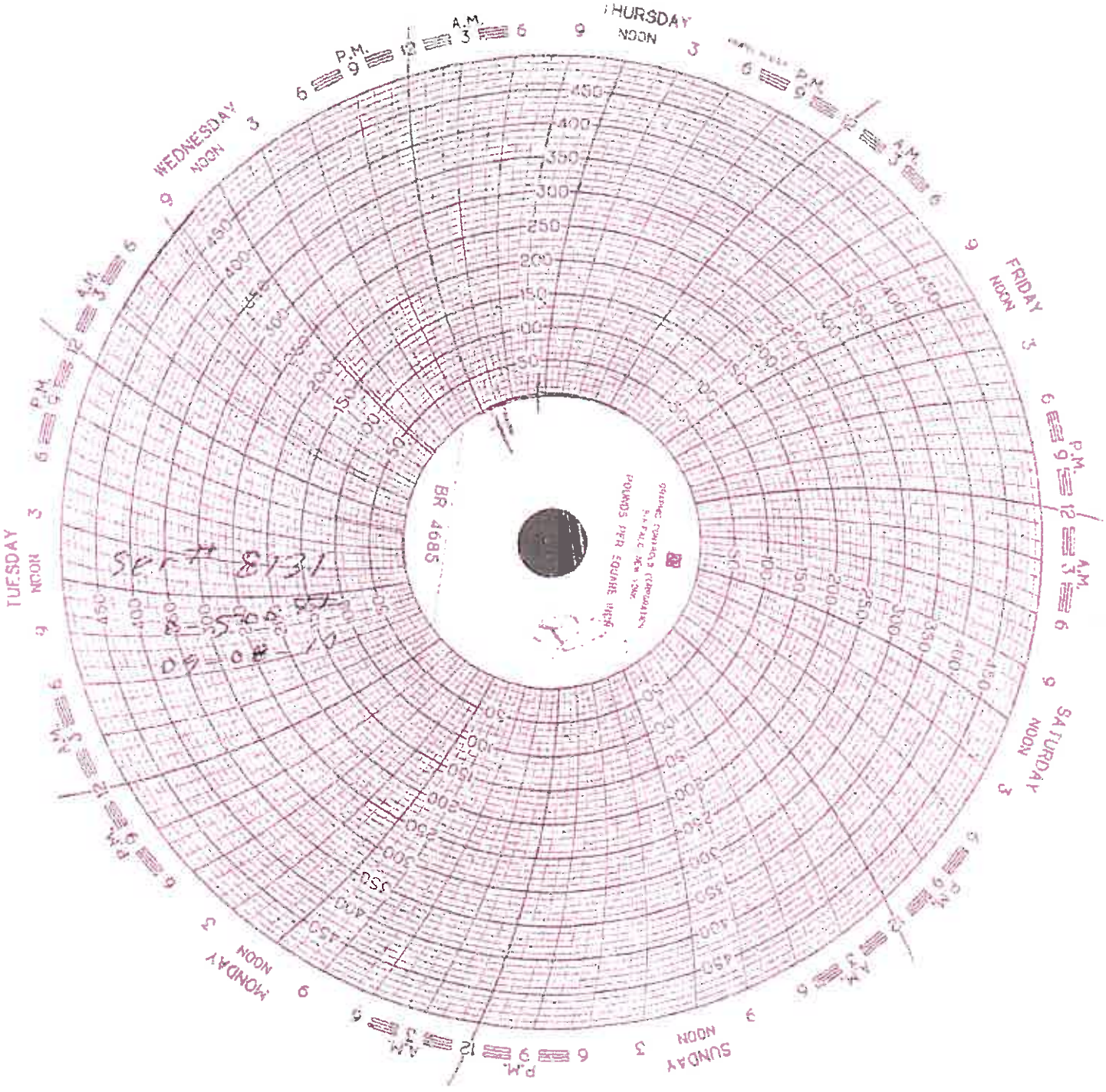
Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C. O. C.

Carrier # Fed 794176252790

APPENDIX D

MIT TEST CHART


GRAPHIC CONTROLS CORPORATION
BUFFALO NEW YORK
LBS
PER
SQ IN
6 AM
NOON
6 PM
MIDNIGHT
API 30-025-33547
Formation Test
STOP
Start 10:27 AM
9/10/10


THURSDAY
NOON
FRIDAY
NOON
SATURDAY
NOON
SUNDAY
NOON
MONDAY
NOON
TUESDAY
NOON
WEDNESDAY
NOON
A.M.
P.M.
POUNDS PER SQUARE INCH

American Valve & Meter, Inc.

1113 W. BROADWAY
P.O. BOX 166
HOBBS, NM 88240

TO: Key Energy **DATE:** 09-08-10

This is to certify that:

I, Bud Collins, **Technician for American Valve & Meter, Inc., has checked the calibration of the following instrument.**

8" Pressure recorder **Serial No:** 8131

at these points.

Pressure 0 - 3000 **Temperature** _____

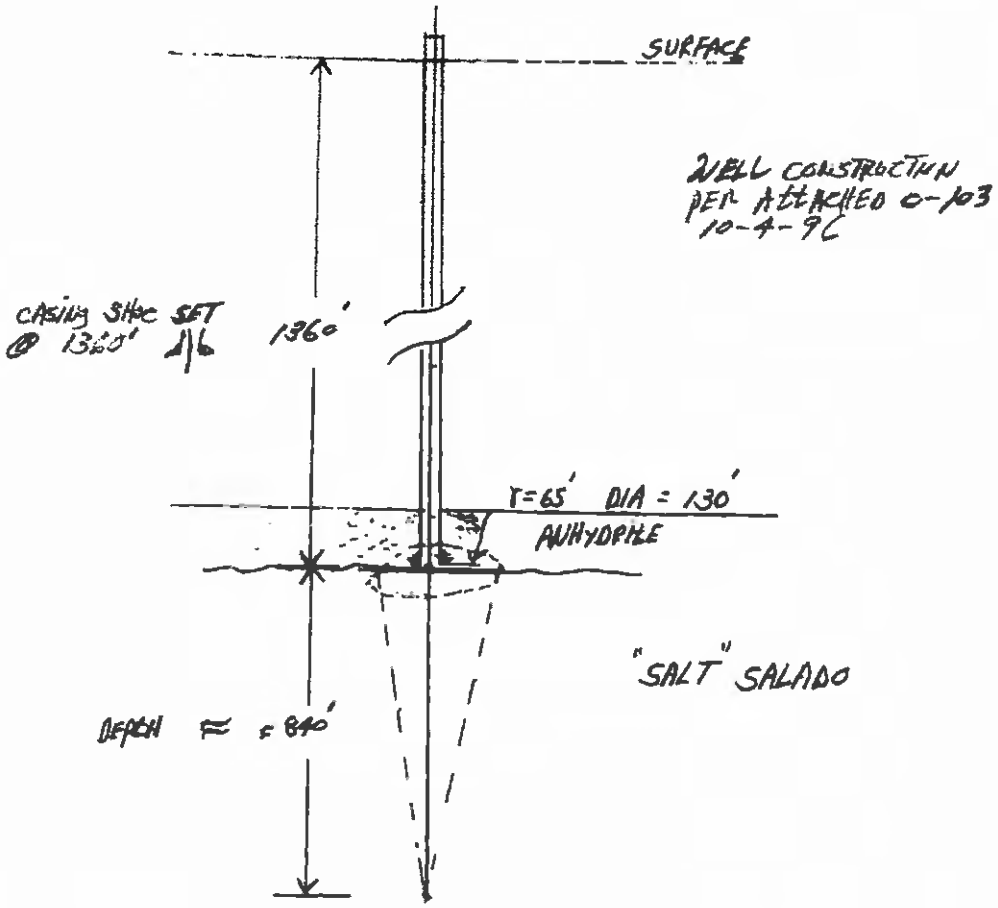
Test	Found	Left	Test	Found	Left
0	___	0	___	___	___
250	___	250	___	___	___
500	___	500	___	___	___
350	___	350	___	___	___
100	___	100	___	___	___
0	___	0	___	___	___

Remarks: _____

Signature Bud Collins

APPENDIX E

BRINE CAVITY CALCULATIONS



$r = \sqrt{\frac{V \cdot 3}{\pi \cdot 840}}$ FROM VOL of INVERTED CONE $V = \frac{1}{3}\pi r^2 \cdot \text{DEPTH}$

Total Brine Produced Thru 2010 = 3,767,496 BBLS ≃ 3.8 M

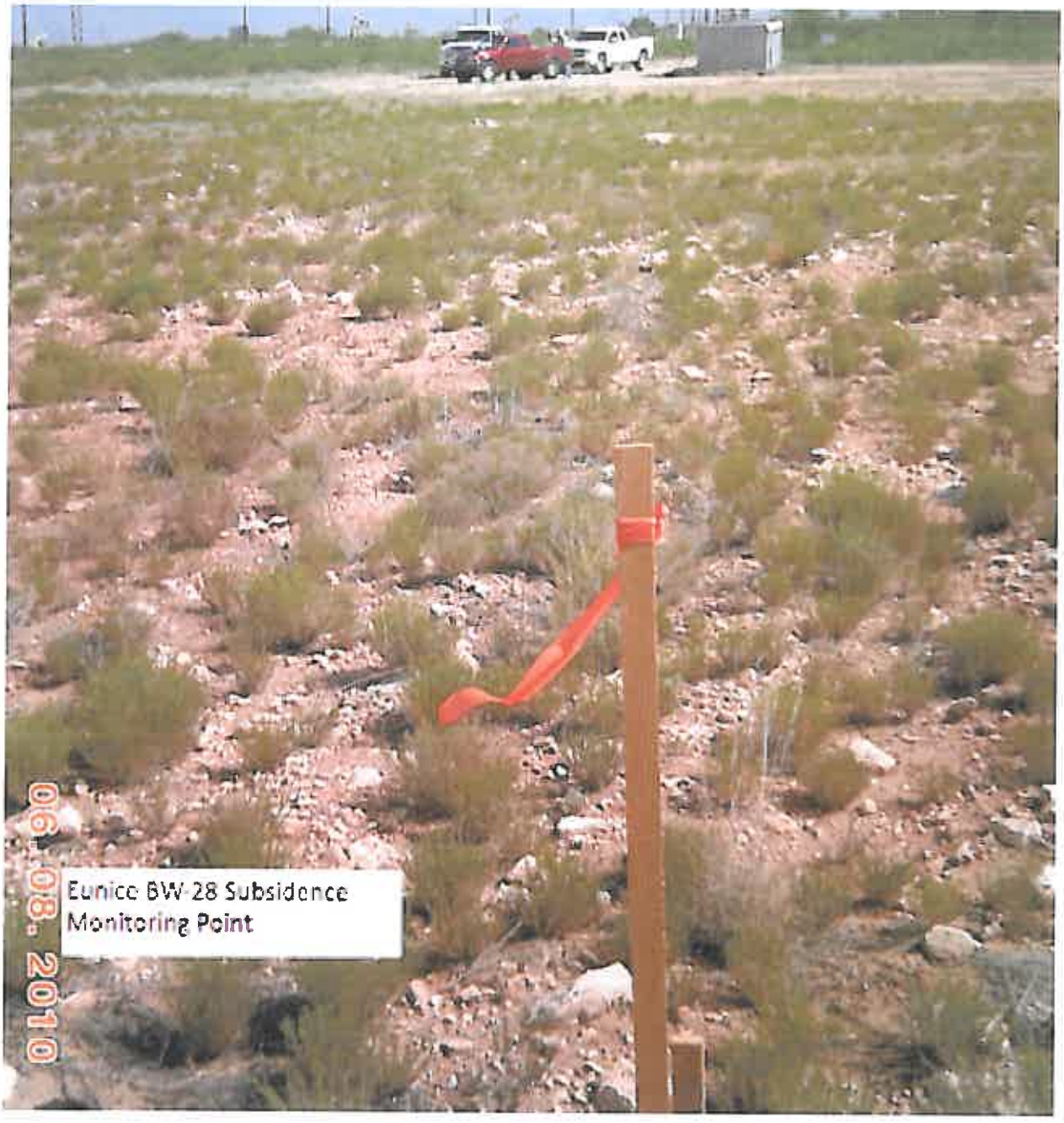
$r = \sqrt{\frac{3.8 \times 10^6 \cdot 3}{\pi \cdot 840}}$

$r = 65.78 \simeq 66$ ft

d = diameter = 132 ft

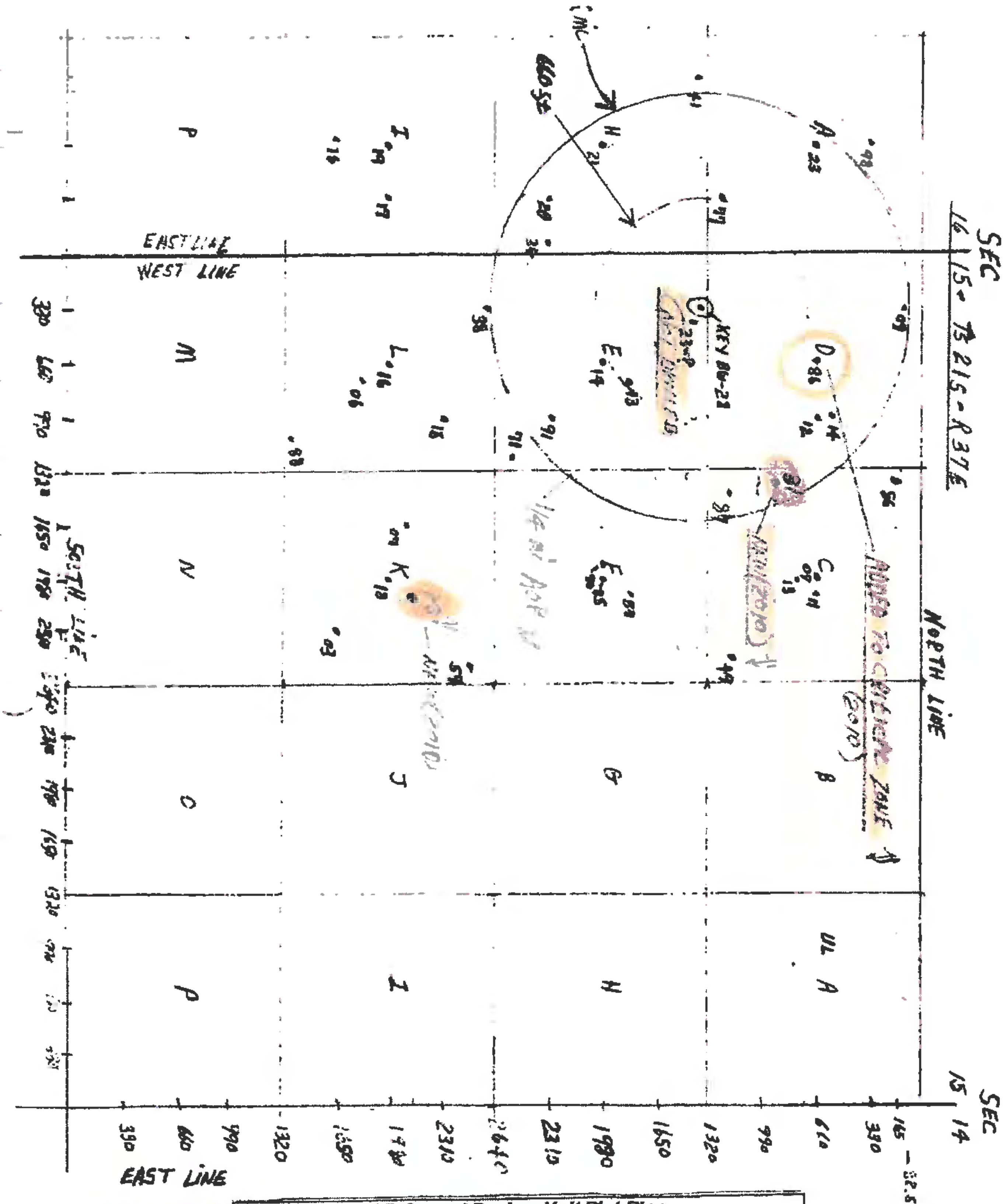
h = 1360 ft

$d/h = .097 \simeq .1$


Eunice BW-28 Subsidence
Monitoring Point
06.08.2010

APPENDIX F

AREA OF REVIEW



2010 ~~2009~~ BW-28 AOR Annual Review-Unit Plot Plan

Key Energy Services

Date: June 2010

Notes:

Wells are ID in units by using last 2 digits of the well's API #.

Example: The Apache NEDU 604 30-025-06591 show on the 2009 BW-25 AOR Review Well Status List can be found in Sec 15 UL E. marked 91.

Well ID #23 shown (?) in UL E was never drilled

UPDATE 6 2011
FEB 21, 2011
BY: DU PRICE

2010 BW-28 AOR Review-- Well Status List

up-dated Feb 2011

	API#	Well Name	UL	Section	Ts	Rg	Footage	Within 1/4 mi AOR * within 660 ft			Casing Program Checked	Cased/Cemented across salt section	Corrective Action Required
1	**30-025-23547**	Key-State no.001	E	15	21s	37e	1340 FNL & 330 FWL	NA			NA		
1	30-025-06591	Apache NEDU 604	E	15	21s	37e	2310 FNL & 990 FWL	yes		1	no	check again 2011 report	check again 2011 report
1	30-025-09913	Shell NEDU 603	E	15	21s	37e	3390 FSL & 4520 FEL	yes*	1	1	yes	yes	no
1	30-025-09914	Apache NEDU 602	E	15	21s	37e	1980 FNL & 660 FWL	yes*	1	1	yes	yes	no
1	30-025-35271	Apache NEDU 602625	E	15	21s	37e	2580 FNL & 1300 FWL	no			na	na	na
0	30-025-37223**	Apache NEDU 628	E	15	21s	37e	1410 FNL & 380 FWL	Not Drilled	0	0	na	na	na
1	30-025-06609	Chevron St. 002	C	15	21s	37e	660 FNL & 1980 FWL	no			na	na	na
1	30-025-06611	Chevron St. 004	C	15	21s	37e	660 FNL & 2080 FWL	no			na	na	na
1	30-025-06613	Apache NEDU 605	C	15	21s	37e	760 FNL & 1980 FWL	no			na	na	na
1	30-025-34649	Apache NEDU 622	C	15	21s	37e	1229 FNL & 2498 FWL	no			na	na	na
1	30-025-34886	Apache NEDU 524	C	15	21s	37e	160 FNL & 1350 FWL	no			na	na	na
1	30-025-39831(added 2010)	Chevron State S no. 2	C	15	21s	37e	990 FNL & 1330 FWL	yes		1	no	check again 2011 report	check again 2011 report
1	30-025-34887	Apache NEDU 624	C	15	21s	37e	1250 FNL & 1368 FWL	yes		1	no	check again 2011 report	check again 2011 report
1	30-025-06586	Chevron St. 001	D	15	21s	37e	660 FNL & 660 FWL	yes*(changed in 2010)	1	1	yes	yes	no
1	30-025-06612	Chevron St. 005	D	15	21s	37e	660 FNL & 990 FWL	yes		1	no	check again 2011 report	check again 2011 report
1	30-025-06614	Apache NEDU 601	D	15	21s	37e	600 FNL & 990 FWL	yes		1	no	check again 2011 report	check again 2011 report
1	30-025-36809	Apache NEDU 526	D	15	21s	37e	130 FNL & 330 FWL	yes		1	no	check again 2011 report	check again 2011 report
1	30-025-06585	Apache St. 002	F	15	21s	37e	1980 FNL & 1980 FWL	no			na	na	na
1	30-025-06587	Apache NEDU 606	F	15	21s	37e	3375 FSL & 3225 FEL	no			na	na	na
1	30-025-06590	Apache NEDU 608	F	15	21s	37e	1980 FNL & 1880 FWL	no			na	na	na
1	30-025-06603	Apache Argo 006	K	15	21s	37e	1650 FSL & 2310 FWL	no			na	na	na
1	30-025-06607(added 2010)	Apache Argo 011	K	15	21s	37e	2080 FSL & 1650 FWL	no			na	na	na
1	30-025-09918	Apache NEDU 703	K	15	21s	37e	1980 FSL & 1980 FWL	no			na	na	na
1	30-025-39828	Apache Argo 14	K	15	21s	37e	2190 FSL & 2130 FWL	no			na	na	na
1	30-025-34657	Apache NEDU 623	K	15	21s	37e	2540 FSL & 2482 FWL	no			na	na	na
1	30-025-06606	Apache Argo 010	L	15	21s	37e	1880 FSL & 760 FWL	no			na	na	na
1	30-025-09915	Apache Argo 007	L	15	21s	37e	2310 FSL & 990 FWL	no			na	na	na
1	30-025-09916	Apache NEDU 701	L	15	21s	37e	1980 FSL & 660 FWL	no			na	na	na
1	30-025-34888	Apache NEDU 713	L	15	21s	37e	1330 FSL & 1142 FWL	no			na	na	na
1	30-025-37238	Apache NEDU 629	L	15	21s	37e	2630 FSL & 330 FWL	yes		1	no	check again 2011 report	check again 2011 report
1	30-025-06623	Apache WBDU 057	A	16	21s	37e	660 FNL & 660 FEL	yes		1	no	check again 2011 report	check again 2011 report
1	30-025-25198	Chevron HLNCT 006	A	16	21s	37e	330 FNL & 600 FEL	no			na	na	na
1	30-025-39277***	Apache WBDU 113	A	16	21s	37e	1290 FNL & 330 FEL	yes*	1	1	yes	yes	will report in 2011
1	30-025-06621	Apache WBDU 056	H	16	21s	37e	1980 FNL & 660 FEL	yes		1	no	check again 2011 report	check again 2011 report
1	30-025-06624	Chevron HLNCT 005	H	16	21s	37e	2310 FNL & 330 FEL	yes		1	no	check again 2011 report	check again 2011 report
1	30-025-36741	Chevron HLNCT 007	H	16	21s	37e	1330 FNL & 1070 FEL	no			na	na	na
1	30-025-37834	Chevron HLNCT 008	H	16	21s	37e	2310 FNL & 030 FEL	yes		1	no	check again 2011 report	check again 2011 report
1	30-025-06617	Apache St. DA 005	I	16	21s	37e	1980 FSL & 330 FEL	no			na	na	na
1	30-025-06619	Apache WBDU078	I	16	21s	37e	1980 FSL & 660 FEL	no			na	na	na
1	30-025-37916	Apache St. DA 013	I	16	21s	37e	1650 FSL & 780 FEL	no			na	na	na
									4	15			

39 Total # of wells in adjacent quarter-sections
15 Total # of wells in 1/4 mile AOR
4 Total # of wells that are or have become within 660 ft of the outside radius of the brine well and casing program will be checked and reported in the next annual report.

Notes:

* **Means the well is within 660 ft of the outside radius of the brine well and casing program will be checked and reported in the next annual report.**

** **API # 30-025-37223 not drilled**

*** **API# 30-025-39277 will investigate high cement useage during drilling and report in 2011.**

Well File Search - *Select API Number to View*

Please select the API Number you wish to view from the list below by clicking the radio button next to the API Number. Then click the "Continue" button to see the thumbnails for the API you selected. The search results are broken out by groups of 25 on each page. Switching pages can be done by clicking the 'Next 25" or 'Previous 25" links.

7 Records Found — Displaying Screen 1 of 1

API Number	ULSTR	Footages
3002506609	C -15-21S-37E	660 FNL & 1980 FWL
Well Name & Number: STATE S No. 002		
Operator: CHEVRON U S A INC		
3002506611	C -15-21S-37E	660 FNL & 2080 FWL
Well Name & Number: STATE S No. 004		
Operator: CHEVRON U S A INC		
3002506613	C -15-21S-37E	760 FNL & 1980 FWL
Well Name & Number: NORTHEAST DRINKARD UNIT No. 605		
Operator: APACHE CORP		
3002534649	C -15-21S-37E	1229 FNL & 2498 FWL
Well Name & Number: NORTHEAST DRINKARD UNIT No. 622		
Operator: APACHE CORP		
3002534886	C -15-21S-37E	160 FNL & 1350 FWL
Well Name & Number: NORTHEAST DRINKARD UNIT No. 524		
Operator: APACHE CORP		
3002534887	C -15-21S-37E	1250 FNL & 1368 FWL
Well Name & Number: NORTHEAST DRINKARD UNIT No. 624		
Operator: APACHE CORP		
3002539831	C -15-21S-37E	990 FNL & 1330 FWL
Well Name & Number: STATE S No. 012		
Operator: CHEVRON U S A INC		

7 Records Found — Displaying Screen 1 of 1

Continue **Go Back**

Well File Search - *Select API Number to View*

Please select the API Number you wish to view from the list below by clicking the radio button next to the API Number. Then click the "Continue" button to see the thumbnails for the API you selected. The search results are broken out by groups of 25 on each page. Switching pages can be done by clicking the "Next 25" or "Previous 25" links.

5 Records Found Displaying Screen 1 of 1

API Number	ULSTR	Footages
3002506603	K -15-21S-37E	1650 FSL & 2310 FWL
Well Name & Number: ARGO No. 006		
Operator: APACHE CORP		
3002506607	K -15-21S-37E	2080 FSL & 1650 FWL
Well Name & Number: ARGO No. 011		
Operator: APACHE CORP		
3002509918	K -15-21S-37E	1980 FSL & 1980 FWL
Well Name & Number: NORTHEAST DRINKARD UNIT No. 703		
Operator: APACHE CORP		
3002534657	K -15-21S-37E	2540 FSL & 2482 FWL
Well Name & Number: NORTHEAST DRINKARD UNIT No. 623		
Operator: APACHE CORP		
3002539828	K -15-21S-37E	2190 FSL & 2130 FWL
Well Name & Number: ARGO No. 014		
Operator: APACHE CORP		

5 Records Found Displaying Screen 1 of 1

Continue **Go Back**

Well File Search - *Select API Number to View*

Please select the API Number you wish to view from the list below by clicking the radio button next to the API Number. Then click the "Continue" button to see the thumbnails for the API you selected. The search results are broken out by groups of 25 on each page. Switching pages can be done by clicking the "Next 25" or "Previous 25" links.

3 Records Found Displaying Screen 1 of 1

API Number	ULSTR	Footages
3002506623	A -16-21S-37E	660 FNL & 660 FEL
Well Name & Number: WEST BLINEBRY DRINKARD UNIT No. 057		
Operator: APACHE CORP		
3002525198	A -16-21S-37E	330 FNL & 600 FEL
Well Name & Number: HARRY LEONARD NCT E No. 006		
Operator: CHEVRON U S A INC		
3002539277	A -16-21S-37E	1290 FNL & 330 FEL
Well Name & Number: WEST BLINEBRY DRINKARD UNIT No. 113		
Operator: APACHE CORP		

3 Records Found Displaying Screen 1 of 1

Continue **Go Back**

Well File Search - *Select API Number to View*

Please select the API Number you wish to view from the list below by clicking the radio button next to the API Number. Then click the "Continue" button to see the thumbnails for the API you selected. The search results are broken out by groups of 25 on each page. Switching pages can be done by clicking the "Next 25" or "Previous 25" links.

5 Records Found — Displaying Screen 1 of 1

API Number	ULSTR	Footages
3002506606	L -15-21S-37E	1880 FSL & 760 FWL
Well Name & Number: ARGO No. 010		
Operator: APACHE CORP		
3002509915	L -15-21S-37E	2310 FSL & 990 FWL
Well Name & Number: ARGO No. 007		
Operator: APACHE CORP		
3002509916	L -15-21S-37E	1980 FSL & 660 FWL
Well Name & Number: NORTHEAST DRINKARD UNIT No. 701		
Operator: APACHE CORP		
3002534888	L -15-21S-37E	1330 FSL & 1142 FWL
Well Name & Number: NORTHEAST DRINKARD UNIT No. 713		
Operator: APACHE CORP		
3002537238	L -15-21S-37E	2630 FSL & 330 FWL
Well Name & Number: NORTHEAST DRINKARD UNIT No. 629		
Operator: APACHE CORP		

5 Records Found — Displaying Screen 1 of 1

Continue **Go Back**

Well File Search - *Select API Number to View*

Please select the API Number you wish to view from the list below by clicking the radio button next to the API Number. Then click the "Continue" button to see the thumbnails for the API you selected. The search results are broken out by groups of 25 on each page. Switching pages can be done by clicking the "Next 25" or "Previous 25" links

3 Records Found Displaying Screen 1 of 1

API Number	ULSTR	Footages
3002506585	F -15-21S-37E	1980 FNL & 1980 FWL
Well Name & Number: CITIES S STATE No. 002		
Operator: APACHE CORP		
3002506587	F -15-21S-37E	3375 FSL & 3225 FEL
Well Name & Number: NORTHEAST DRINKARD UNIT No. 606		
Operator: APACHE CORP		
3002506590	F -15-21S-37E	1980 FNL & 1880 FWL
Well Name & Number: NORTHEAST DRINKARD UNIT No. 608		
Operator: APACHE CORP		

3 Records Found Displaying Screen 1 of 1

Continue **Go Back**

Well File Search - *Select API Number to View*

Please select the API Number you wish to view from the list below by clicking the radio button next to the API Number Then click the "Continue" button to see the thumbnails for the API you selected The search results are broken out by groups of 25 on each page. Switching pages can be done by clicking the "Next 25" or "Previous 25" links

4 Records Found Displaying Screen 1 of 1

API Number	ULSTR	Footages
3002506586	D -15-21S-37E	660 FNL & 660 FWL
Well Name & Number: STATE S No. 001		
Operator: CHEVRON U S A INC		
3002506612	D -15-21S-37E	660 FNL & 990 FWL
Well Name & Number: STATE S No. 005		
Operator: CHEVRON U S A INC		
3002506614	D -15-21S-37E	600 FNL & 990 FWL
Well Name & Number: NORTHEAST DRINKARD UNIT No. 601		
Operator: APACHE CORP		
3002536809	D -15-21S-37E	130 FNL & 330 FWL
Well Name & Number: NORTHEAST DRINKARD UNIT No. 526		
Operator: APACHE CORP		

4 Records Found Displaying Screen 1 of 1

Continue **Go Back**

Well File Search - *Select API Number to View*

Please select the API Number you wish to view from the list below by clicking the radio button next to the API Number. Then click the "Continue" button to see the thumbnails for the API you selected. The search results are broken out by groups of 25 on each page. Switching pages can be done by clicking the "Next 25" or "Previous 25" links

6 Records Found — Displaying Screen 1 of 1

API Number	ULSTR	Footages
3002506591	E -15-21S-37E	2310 FNL & 990 FWL

Well Name & Number: NORTHEAST DRINKARD UNIT No. 604
Operator: APACHE CORP

3002509913	E -15-21S-37E	3390 FSL & 4520 FEL

Well Name & Number: NORTHEAST DRINKARD UNIT No. 603
Operator: SHELL WESTERN E & P INC

3002509914	E -15-21S-37E	1980 FNL & 660 FWL

Well Name & Number: NORTHEAST DRINKARD UNIT No. 602
Operator: APACHE CORP

3002533547	E -15-21S-37E	1340 FNL & 330 FWL

Well Name & Number: STATE No. 001
Operator: KEY ENERGY SERVICES, LLC

3002535271	E -15-21S-37E	2580 FNL & 1300 FWL

Well Name & Number: NORTHEAST DRINKARD UNIT No. 625
Operator: APACHE CORP

3002537223	E -15-21S-37E	1410 FNL & 380 FWL

Well Name & Number: NORTHEAST DRINKARD UNIT No. 628
Operator: APACHE CORP

6 Records Found — Displaying Screen 1 of 1

Continue **Go Back**

Well File Search - *Select API Number to View*

Please select the API Number you wish to view from the list below by clicking the radio button next to the API Number. Then click the "Continue" button to see the thumbnails for the API you selected The search results are broken out by groups of 25 on each page Switching pages can be done by clicking the "Next 25" or "Previous 25" links.

3 Records Found Displaying Screen 1 of 1

API Number	ULSTR	Footages
3002506617	I -16-21S-37E	1980 FSL & 330 FEL
Well Name & Number: STATE DA No. 005		
Operator: APACHE CORP		
3002506619	I -16-21S-37E	1980 FSL & 660 FEL
Well Name & Number: WEST BLINEBRY DRINKARD UNIT No. 078		
Operator: APACHE CORP		
3002537916	I -16-21S-37E	1650 FSL & 780 FEL
Well Name & Number: STATE DA No. 013		
Operator: APACHE CORP		

3 Records Found Displaying Screen 1 of 1

Continue **Go Back**

Well File Search - *Select API Number to View*

Please select the API Number you wish to view from the list below by clicking the radio button next to the API Number. Then click the "Continue" button to see the thumbnails for the API you selected. The search results are broken out by groups of 25 on each page. Switching pages can be done by clicking the "Next 25" or "Previous 25" links

4 Records Found Displaying Screen 1 of 1

API Number	ULSTR	Footages
3002506621	H -16-21S-37E	1980 FNL & 660 FEL
Well Name & Number: WEST BLINEBRY DRINKARD UNIT No. 056		
Operator: APACHE CORP		
3002506624	H -16-21S-37E	2310 FNL & 330 FEL
Well Name & Number: HARRY LEONARD NCT E No. 005		
Operator: CHEVRON U S A INC		
3002536741	H -16-21S-37E	1330 FNL & 1070 FEL
Well Name & Number: HARRY LEONARD NCT E No. 007		
Operator: CHEVRON U S A INC		
3002537834	H -16-21S-37E	2310 FNL & 1030 FEL
Well Name & Number: HARRY LEONARD NCT E No. 008		
Operator: CHEVRON U S A INC		

4 Records Found Displaying Screen 1 of 1

Continue **Go Back**

Appendix F

Chevron St S #01 API # 30-025-06586

Partial Well Records

Form C-101 NEW MEXICO OIL CONSERVATION COMMISSION

Santa Fe, New Mexico

NOTICE OF INTENTION TO DRILL

Notice must be given to the Oil Conservation Commission or its proper agent and approval obtained before drilling begins. If changes in the proposed plan are considered advisable, a copy of this notice showing such changes will be returned to the sender. Submit this notice in triplicate. One copy will be returned following approval. See additional instructions in Rules and Regulations of the Commission.

Houston, Texas — Place

June 15th, 1948 — Date

OIL CONSERVATION COMMISSION,
Santa Fe, New Mexico,

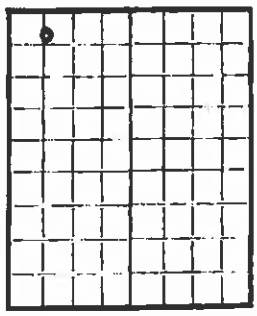
Gentlemen:

You are hereby notified that it is our intention to commence the drilling of a well to be known as

Tide Water Associated Oil Company (Company or Operator) State "S" (Lease) Well No. 1 in NW/4 of Sec. 15, T. 21S, R. 37E, N. M. P. M., Drinkard Field, Lea County.

The well is 660' feet (N.) (S.) of the North line and 660 feet (E.) (W.) of the West line of NW/4 NW/4 Sec. 15, 21S, 37E

(Give location from section or other legal subdivision lines. Cross out wrong directions.)



AREA 640 ACRES

LOCATE WELL CORRECTLY

If state land the oil and gas lease is No. B-9188 Assignment No. _____

If patented land the owner is _____

Address _____

If government land the permittee is _____

Address _____

The lessee is Tide Water Associated Oil Company

Address Box 1404, Houston 1, Texas

We propose to drill well with drilling equipment as follows: _____

The status of a bond for this well in conformance with Rule 38 of the General Rules and Regulations of the Commission is as follows: Blanket Bond dated Nov. 30, 1937, with Saint Paul Mercury Ind. Co

We propose to use the following strings of casing and to land or cement them as indicated:

Size of Hole	Size of Casing	Weight Per Foot	New or Second Hand	Depth	Landed or Cemented	Sacks Cement
17½"	13 3/8"	36#	New	295'	Cemented	325
11"	8 5/8"	32#	New	2800'	Cemented	1200
7 7/8"	5 1/2"	15½#	New	6650'	Cemented	500

If changes in the above plan become advisable we will notify you before cementing or landing casing. We estimate that the first productive oil or gas sand should occur at a depth of about 6600' feet.

Additional information:

Approved JUL 17 1948, 19____
except as follows:

OIL CONSERVATION COMMISSION,
By _____
Title _____

Sincerely yours,
Tide Water Associated Oil Company
Company or Operator
By _____
Authorized Employee
Position _____

Send communications regarding well to
J. E. Springer, c/o Tide Water Assoc. Oil Company,
Name _____
Midland, Texas
Address _____

FORMATION RECORD

FROM	TO	THICKNESS IN FEET	FORMATION
0	95	95	Caliche and Sand
95	1262	1167	Red Bed.
1262	1390	128	Anhydrite and Shale.
1390	1634	244	Salt - Shale and Anhydrite
1634	2445	811	Salt and Anhydrite
2445	2800	355	Anhydrite
2800	2962	162	Anhydrite and Lime.
2962	3820	858	Lime.
3820	3876	56	Sand Lime.
3876	6660	2784	Lime.

Top of Anhydrite 1300(
Top of Yates 2690'
Top of San Andres 3970'
Top of Glorietta 5180
Top of Tubbs 6157'
Top of Drinkard (Pay(6550'

Derrick Floor Measurements.

Submit 3 copies to Appropriate District Office

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240
DISTRICT II
P O Box Drawer DD, Artesia, NM 88210
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

P O. Box 2088
Santa Fe, New Mexico 87504-2088

REQUEST FOR ALLOWABLE AND AUTHORIZATION
TO TRANSPORT OIL AND NATURAL GAS

Form C-104
Revised 1-1-89
See Instructions
at Bottom of Page

I.

Operator	Well API No.
TEXACO EXPLORATION & PRODUCTION INC.	30-025-06566
Address: P O. BOX 730, HOBBS, NM 88240	

New Well	☐	Change in Transporter of:				☐ Other (Please explain)
Recompletion	☒	Oil	☐	Dry Gas	☐	
Change in Operator	☐	Casinghead Gas	☐	Condensate	☐	

If change of operator give name and address of previous operator

THIS WELL HAS BEEN PLACED IN THE POOL DESIGNATED BELOW. IF YOU DO NOT CONCUR NOTIFY THIS OFFICE. 4/1/94

II. DESCRIPTION OF WELL AND LEASE

Lease Name	Well No.	Pool Name, Including Formation	Kind of Lease State, Federal or Fee	Lease No.
STATE S	1	PENROSE SKELLY GRAYBURG K-1509	STATE	B-9185

Location
Unit Letter D : 660 Feet From The NORTH Line and 660 Feet From The WEST Line
Section 15 Township 21-S Range 37-E NMPM LEA COUNTY

III. DESIGNATION OF TRANSPORTER OF OIL AND NATURAL GAS

Name of Authorized Transporter of Oil ☒ Condensate ☐	Address (Give address to which approved copy of this form is to be sent)
TEX-NEW MEX PIPELINE CO	P.O. BOX 2528 HOBBS, NEW MEXICO 88240
Name of Authorized Transporter of Casinghead Gas ☒ Dry Gas ☐	Address (Give address to which approved copy of this form is to be sent)
TEXACO E & P INC.	P O. BOX 1137 EUNICE, NEW MEXICO 88231

If Well Produces oil or liquids, give location of tanks	Unit	Sec	Twp	Rge	Is gas actually connected?	When?
	C	15	21S	37E	YES	12/16/93

If this production is commingled with that from any other lease or pool, give commingling order number.

IV. COMPLETION DATA

Designate Type of Completion - (X)	Oil Well	Gas Well	New Well	Workover	Deepen	Plug Back	Same Res'v	Diff Res'v
	X			X		X		X

Date Spudded	Date Compl. Ready to Prod.	Total Depth	P.B.T.D
6/25/48	12/16/93	6660'	6444'
Elevations (DF, RKB, RT, GR, etc.)	Name of Producing Formation	Top Oil/Gas Pay	Tubing Depth
3482' GR	GRAYBURG	3698'	4006'
Perforations			Depth Casing Shoe
3698 - 3868 (132 FT - 274 HOLES)			6660'

TUBING, CASING AND CEMENTING RECORD

HOLE SIZE	CASING and TUBING SIZE	DEPTH SET	SACKS CEMENT
17 1/4"	13 3/8"	293'	300 SXS, CIRC
11"	8 5/8"	2787'	TOC CALC @ SURF
7 7/8"	5 1/2"	6525'	CACL @ 4340

V. TEST DATA AND REQUEST FOR ALLOWABLE

OIL WELL (Test must be after recovery of total volume of load oil and must be equal to or exceed top allowable for this depth or be a full 24 hours)

Date First New Oil Run To Tank	Date of Test	Producing Method (Flow, pump, gas lift, etc.)	
12/20/93	1-3-94	PUMPING	
Length of Test	Tubing Pressure	Casing Pressure	Choke Size
24 HOURS			
Actual Prod. During Test	Oil - Bbls.	Water - Bbls.	Gas - MCF
3722 GOR	18	7	67

GAS WELL

Actual Prod. Test - MCF/D	Length of Test	Bbls. Condensate/MMCF	Gravity of Condensate
Testing Method (pitot, back pr.)	Tubing Pressure (Shut-in)	Casing Pressure (Shut-in)	Choke Size

VI. OPERATOR CERTIFICATE OF COMPLIANCE

I hereby certify that the rules and regulations of the Oil Conservation Division have been complied with and that the information given above is true and complete to the best of my knowledge and belief

Signature
Monte C. Duncan — Engr Asst
Printed Name — Title
1/28/94 — 397-0418
Date — Telephone No.

OIL CONSERVATION DIVISION

Date Approved FEB 2 1994

By ORIGINAL SIGNED BY JERRY SEXTON
DISTRICT I SUPERVISOR

Title

INSTRUCTIONS: This form is to be filed in compliance with rule 1104

1) Request for allowable for newly drilled or deepened well must be accompanied by tabulation of deviation tests taken in accordance with rule 111
2) All sections of this form must be filled out for allowable on new and recompleted wells.
3) Fill out only sections I, II, III, and IV for changes in operator, well name or number, transporter, or other such changes
4) Separate Form C-104 must be filed for each pool in multiply completed wells.

DeSoto/Nichols 12-93 Ver 1.0

Submit 3 Copies To Appropriate District Office
District I
1625 N French Dr., Hobbs, NM 88240
District II
1301 W Grand Ave., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S St Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

RECEIVED
AUG 14 2008
HOBBS OCD

Form C-103
June 19, 2008

WELL API NO. 30-025-06586
5. Indicate Type of Lease STATE ☒ FEE ☐
6. State Oil & Gas Lease No.

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

7. Lease Name or Unit Agreement Name: STATE S
1. Type of Well: Oil Well ☒ Gas Well ☐ Other
8. Well Number 1
2. Name of Operator: CHEVRON
9. OGRID Number 4323
3. Address of Operator: 15 SMITH ROAD, MIDLAND, TEXAS 79705
10. Pool name or Wildcat: PENROSE SKELLY GRAYBURG
4. Well Location
Unit Letter D: 660 feet from the NORTH line and 660 feet from the WEST line
Section 15 Township 21-S Range 37-E NMPM County LEA
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3462

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
PERFORM REMEDIAL WORK	☐	PLUG AND ABANDON	☐	REMEDIAL WORK	☐	ALTERING CASING	☐
TEMPORARILY ABANDON	☐	CHANGE PLANS	☐	COMMENCE DRILLING OPNS.	☐	P AND A	☐
PULL OR ALTER CASING	☐	MULTIPLE COMPL	☐	CASING/CEMENT JOB	☐		
DOWNHOLE COMMINGLE	☐						
OTHER:	☐			OTHER: ACIDIZE & SCALE SQUEEZE			

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

07-30-08: MIRU. 07-31-08: REL TAC. TIH W/WS TO 4527. DID NOT TAG FILL. SET PKRS @ 3679. 08-04-08: PMP 28 BBLS ACID TO FILL TBG. WELL ON VAC. ACIDIZE PERFS W/105 BBLS ACID. ALL PERFS OPN VAC. SWAB. 08-05-08: SWAB. 08-06-08: PKR WOULD NOT SET. COLLAR ABOVE PKR IS SPLIT. TIH W/NEW COLLAR. TAG FISH @ 3905. SET PKR. REL. PKR. TIH W/PKR TO 3672 & SET. PMP 105 BBLS SCALE INHIB. 08-07-08: REL PKR. TIH W/2 7/8" TBG. EOT @ 4052. 08-08-08 RUN PMP & RODS. RIG DOWN. FINAL REPORT

Spud Date: 07-30-08 Rig Release Date: 8-08-08

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Denise Pinkerton TITLE REGULATORY SPECIALIST DATE 08-11-2008

Type or print name DENISE PINKERTON E-mail address: leakejd@chevron.com PHONE: 432-687-7375

For State Use Only

APPROVED BY: Chris Williams TITLE OC DISTRICT SUPERVISOR/GENERAL MANAGER DATE AUG 18 2008

Conditions of Approval (if any):

Pen Skel

Well: State S #1

Formation: Grayburg

Location:

660' FNL & 660' FWL, Sec 15 T-21S, R-37E	
Field:	Penrose Skelly
County:	Lea, NM
State:	NM

Well Info:

Comp. Date:	6/25/1948
Spud Date:	6/26/1948
API:	30-025-08586
RefNO:	FA/691

UL. D

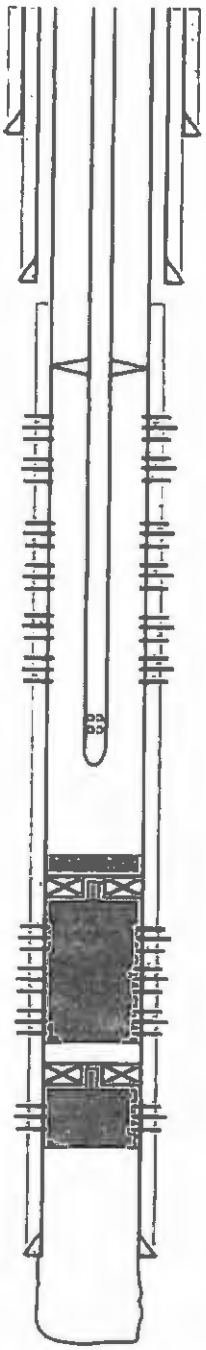
Elevations

KB:	3452'
GL:	3462'
DF:	3461'

Current Wellbore Diagram

This wellbore diagram is based on the most recent information regarding wellbore configuration and equipment that could be found in the Midland Office well file and computer databases as of the update below. Verify what is in the hole with well file in the Eunice Field Office. D w/ WEO Engineer, WO Rep, DS, ALS, & to rigging up on well regarding any h unknown issues pertaining to the w

TOC @ 3100'



CICR @ 6444' (20' cmt on top)

COTD: 6434'
PBTD: 6434'
TD: 6660'

By: rjdg

Surface Casing
Size: 13-3/8", 36#, ERW
Set: @ 293' w/ 300 sks
Hole Size: 17-1/4"
Circ: Yes
TOC @ Surface (circ)

Intermediate Casing
Size: 8-5/8", 32#, SS
Set @: 2787' w/ 1200 sks
Hole Size: 11"
Circ: No
TOC: Surface (calc)

Perfs	Status
3698-3705'	Grayburg - Open
3713-16	Grayburg - Open
3724-33	Grayburg - Open
3763-71	Grayburg - Open
3774-82	Grayburg - Open
3787-96'	Grayburg - Open
3817-28'	Grayburg - Open
3837-59'	Grayburg - Open
3865-70'	Grayburg - Open
3876-89'	Grayburg - Open
3912-22'	Grayburg - Open
3940-45	Grayburg - Open
3952-58	Grayburg - Open

Perfs	Status
6504'	Drinkard - Cmt Sqzd
6507'	Drinkard - Cmt Sqzd
6510'	Drinkard - Cmt Sqzd
6514'	Drinkard - Cmt Sqzd
6519'	Drinkard - Cmt Sqzd
6527'	Drinkard - Cmt Sqzd

6560'-6600'	Drinkard - Cmt Sqzd
6625'-6660	Drinkard OH - Below Sand Plug

Production Casing
Size: 5-1/2" 15.5 J-55
Set @: 6625 w/ 400 sks
Hole Size: 7-7/8"
Circ: No
TOC: 3100' (CBL)

Updated: 17-Apr-08

Submit to Appropriate
District Office
State Lease - 6 copies
Fee Lease - 5 copies

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240
DISTRICT II
P.O. Box Drawer DD, Artesia, NM 88210
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

Form C-105
Revised 1-1-89

WELL API NO. 30-025-06586

5. Indicate Type of Lease STATE ☒ FEE ☐

6. State Oil / Gas Lease B-9188

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. Type of Well: OIL WELL ☒ GAS WELL ☐ DRY ☐ OTHER

b. Type of Completion: NEW WELL ☐ WORKOVER ☒ DEEPEN ☐ PLUG BACK ☒ DIFF RES. ☒ OTHER

7. Lease Name or Unit Agreement Name: STATE S

2. Name of Operator: TEXACO EXPLORATION & PRODUCTION INC.

8. Well No. 1

3. Address of Operator: P.O. BOX 730, HOBBS, NM 88240

9. Pool Name or Wildcat: PENROSE SKELLY GRAYBURG

4. Well Location
Unit Letter D : 660 Feet From The NORTH Line and 660 Feet From The WEST Line
Section 15 Township 21-S Range 37-E NMPM LEA COUNTY

10. Date Spudded	11. Date T.D. Reached	12. Date Compl. (Ready to Prod.)	13. Elevations (DF & RKB, RT, GR, etc.)	14. Elev. Casinghead
8/25/48	9/17/48	12/18/93	3452' GR	-

15. Total Depth	16. Plug Back T.D.	17. If Mult. Compl. How Many Zones?	18. Intervals Drilled By	Rotary Tools	Cable Tools
6660'	6444'			3452' GR	3452' GR

19. Producing Interval(s), of this completion - Top, Bottom, Name
3695' - 3958' PENROSE SKELLY GRAYBURG

20. Was Directional Survey Made: No

21. Type Electric and Other Logs Run
CEMENT BOND LOG

22. Was Well Cored: No

23. CASING RECORD (Report all Strings set in well)

CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENT RECORD	AMOUNT PULLED
13 3/8"	36#	293'	17 1/4"	300 SXS, CIRC	NONE
8 5/8"	32#	2797'	11"	TOC CALC @ SURF	NONE
5 1/2"	15/5#	6825'	7 7/8"	CACL @ 4340	NONE

24. LINER RECORD

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN

25. TUBING RECORD

SIZE	DEPTH SET	PACKER SET
2 2/8"	4006'	-

26. Perforation record (interval, size, and number)
3695' - 3958' (132 FT - 274 HOLES)

27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED
3695-3958'	7000 GALS 15% NEFE

28. PRODUCTION

Date First Production	Production Method (Flowing, gas lift, pumping - size and type pump)	Well Status (Prod. or Shut-in)
12/24/93	PUMPING	PRODUCING

Date of Test	Hours tested	Choke Size	Prod'n For Test Period	Oil - Bbl.	Gas - MCF	Water - Bbl.	Gas - Oil Ratio
1-3-94	24 HOURS			18	67	7	3722

Flow Tubing Press.	Casing Pressure	Calculated 24-Hour Rate	Oil - Bbl.	Gas - MCF	Water - Bbl.	Oil Gravity - API -(Corr.)
						32.3%

29. Disposition of Gas (Sold, used for fuel, vented, etc.)
SOLD

Test Witnessed By
JOE TIPPY

30. List Attachments

31. I hereby certify that the information on both sides of this form is true and complete to the best of my knowledge and belief.

SIGNATURE [signature] TITLE Engr Asst DATE 1/28/94

TYPE OR PRINT NAME Monte C. Duncan Telephone No. 397-0418

DeSoto/Nichols 12-93 ver 1.0