BW - ____28____

ANNUAL REPORTS

2011 & 2014



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

Telephone: 432.620.0300 Facsimile: 432.571.7173 www.keyenergy.com

REGENTED OGD 2012 - 2012 - 1 A 2013 - 35

January 26, 2012

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

Re:

Annual Class III Well Report for the State S. Brine Station

Permit BW-028

Dear Jim:

Enclosed you will find the 2011 Annual Class III Brine Well Report for the State S. Brine Station.

If you have any questions, please contact Dan Gibson at 432.571.7536.

Sincerely,

Robyn Miller, CLA and SWD Compliance Coordinator

Enclosure

cc:

Mr. Bob Fisher



ANNUAL CLASS III WELL REPORT FOR 2011

Key Energy Services, Inc.

State S Brine Station

Permit BW-028

API No. 30-025-33547

January 20, 2011

Submitted by: _

Daniel K. Gibson, P.G.

Corporate Environmental Director

Key Energy Services, Inc.

6 Desta Drive Suite 4300

Midland, Texas 79705

(432) 571-7536 ph

(432) 571-7173 fax

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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 2011 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, a C-103 is normally not required. However, Key Energy submitted a C-103, which has been included in the MIT Section IV-Appendix D.

General housekeeping was routinely performed and 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 E* shows drawings and data of recent installed subsidence survey markers).

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

Appendix A has a recent aerial photo of the site for reference.

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. Key is anticipating it may 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 2011 brine production volume was 222,286 bbls and the lifetime production volume is 3,989,782 bbls.

Enclosed in the tables section of the report is the injection and production table 1. and the 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* the latest chemical analysis and chain-of-custody of the brine and fresh water injection water samples collected October 19, 2011 and analyzed by Cardinal Laboratory in Hobbs, NM. 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.

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.

The specific gravity of the brine water was 1.13, which equates to 9.4 lb/gal. This is lower than the usual 10 lb/gal normally produced. This was attributed to the fact that during the test in September, most of the brine water was sold leaving only fresh water for the MIT "Open to Formation Test." This loaded the hole with a large amount of fresh water and the well had not recovered from this event.

To compensate for this, next years test may be ran using nitrogen.

Special Note: The laboratory misread the Chain-of-Custody and mislabeled the Eunice Brine Well as "GUINI" Brine Well.

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 2011, 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 annulus and producing brine up the tubing; to injecting fresh water down the tubing and producing brine up the annulus.

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 2011 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 2011 there was one reportable leaks or spills. A Bronco Services truck operator fell asleep while loading his truck and accidently released approximately

100 bbls of brine water, which ran off the loading pad just north of the pad and was contained on-site by the installed stormwater berms. 40 bbls were recovered and a C-141 was submitted to the OCD Hobbs office, with a copy to the Santa Fe office. Remediation corrective action is underway and when complete, a closure report will be submitted to both the Hobbs and Santa Fe offices for final approval. *Appendix C* contains a copy the initial C-141 spill report and photos showing remediation efforts.

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 workgroup, 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 3.98 million barrels of brine produced as of December 2011. The maximum diameter was calculated to be approximately 136 feet with a corresponding D/H ratio of .10 updated for the 2011 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 the first annual results are documented in *Appendix E*.

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 and AOR plot plan 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 2011 review, there were no new wells added to the list. *Appendix F* contains the check-off list showing the OCD wells in all adjacent quarter sections surrounding the BW-28 brine well.

As in 2010, there are 39 wells located within these adjacent units. Within a 1/4 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. 136 ft (r = 68 ft) up-dated for 2011, 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.

All four wells located in the critical zone were reinvestigated by checking the OCD on-line well records. There was no well activity for any of these wells reported since the last 2010 review. *Appendix F* contains the last recorded file record for the four wells located in the critical AOR. They are identified as API# 30-025-914, 09913, 06586, and 39277.

This 2011 report includes the investigation of two more wells that are nearest the 660ft critical AOR and within the ¼ mile AOR that have not been investigated. These wells are identified as API # 30-025-06612 and 06614. Every year as the well bore grows additional wells may be added.

The Findings are as follows:

<u>API # 30-025-06612:</u> Chevron State #5, according to OCD records, is located 660 FNL & 990 FWL of UL D Section 15-Ts21s-R37e. It is shown to be located approximately 900 ft to the NE of the BW-28 well. This well was drilled in 1951 with surface casing set at 294 ft and cemented with 300 sacks circulated to surface. Intermediate casing was set at 2974 feet and cemented with 2000 sacks circulated to surface. A long string was ran and set at 8147 feet and cemented with 500 sacks with an estimated top at 2570 feet. There appears to be approximately 400 feet of cement above the bottom of the intermediate string.

It was recompleted as a gas well in the Grayburg at 3841-51 feet.

<u>Conclusions:</u> 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 # 30-025-06614: Apache NEDU 601, according to OCD records, is located 600 FNL & 990 FWL of Section 15-Ts21s-R37e. It is shown to be located approximately 950 ft to the NE of the BW-28 well. This well was drilled in 1952 with surface casing set at 293 feet bgl and cemented with 300 sacks. Intermediate casing was set at 2990 feet and cemented with 2000 sacks. A long string was ran and set at 8142 feet and cemented with 350 sacks. The well was plugged and abandoned in October of 2011.

<u>Conclusions</u>: 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.

The well records, for the two afore mentioned wells, is included in Appendix F.

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

Senior Vice President – Fluids Management Services

TABLES

TABLE 1	_
TABLE 1 2011 BW-28 Annual Report Brine Well Production Volumes and Lifetime History Volumes	5

				r report bin				in the vindedity	
		Reported			Reported			i	
		Monthly	Quarterly	Annual Brine	Monthly	Quarterly	Annual		
Year	Month	Brine	Brine	Production	Freshwater	Freshwater	Freshwater	Comments	Operator
	1.0	Production	Production	(bbls)	Injection	Injection	Injection	Commence	operato.
	l .	(bbis)	(bbls)	(0013)	(bbls)	(bbis)	(bbls)		
		(DOIS)			(UUIS)				
1996	October	10,588			10,588				Goldstar SWD
	November	17,770			17,743		1		
	December	32,223		60,581	33,004		61,335		
1997	January	20,194			20,445			estimate (1)	
	February	20,194		[20,445	1		estimate (1)	
	March	20,194	60,582	ł	20,445			estimate (1)	
	April	48,226		1	47,714				
	May	38,000	İ	İ	36,571				
	June	47,970	134,196		42,264	126,549			
	July	24,711	201/250	1	24,271	220,5-12	1		
	August	31,817			31,559]		
	September	38,120			38,697	94,527			
	October	27,462	34,040	í	25,512	34,527	1		
	November	26,618	1		26,261	1			
	December	16,137	70,217	359,643	15,850		350,034		
1008			70,217	339,043			330,034		
1990	January	13,301	1		13,614	ł	1		
	February	47,212			49,552	100 130			
	March	42,337	102,850	ł	44,964	108,130	Į.		
	April	27,072			27,519				
	May	18,084	74 055	1	18,161			<u> </u>	
	June	26,699		ł	26,976		1		
	July	16,535			15,929				
	August	8,287		1	7,488		!		
	September	9,994	34,816	ł	9,021	32,438	1		
	October	13,312			17,302				
	November	9,822			9,873				
	December	8,287	31,421	240,942		36,672	249,896		
1999	January	4,026	1		4,607	1			
	February	6,867	Ì		8,138		ł		
	March	5,641	16,534		6,030		1		
	April	7,873		1	7,338				
	May	34,100		1	32,461]	i		
	June	20,708	62,681	i	20,171	59,970	j		
	July	35,278		1	34,566		}		
	August	35,876		[35,995		1		
	September	43,196	114,350		42,724	113,285			
	October	9,700		1	10,097				
	November	8,383	l		9,080	ŀ	!		
	December	28,662	46,745	240,310	29,721	48,898	240,928		
2000	January	65,492			65,028				
	February	37,709		1	36,909				
	March	40,409	143,610	ł	40,414	142,351	1		
	April	20,181		ľ	20,404		1		
	May	52,092	1		50,373]			
	June	41,371	113,644		37,776	108,553	1		
	July	33,860		1	31,757		}		
	August	37,535	ŀ	1	35,492				
	September	58,042	129,437	I	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]	1	23,076	1			
	March	34,050			33,216		1		
	April	32,900		l .	36,064		}		Change to Yale E. Key
	May	66,724		1	52,555		İ		
	June	37,607		1	42,347	130,966			
	July	16,399			15,588				
	August	10,173			33,664		Į.		
	September	16,185			16,200				
	October	25,184		1	24,147				
	November	10,447			8,666				
	December	21,061		320,650			341,339		
2002	January	11,809			10,135				
	February	22,700			23,733		1		
	March	4,693			4,369				
	April	15,160			16,776		!		
L	May	16,321			17,283				
	June	13,938	45,419	1	15,276				
	July	8,301		1	10,688		1		
	August	7,079		l	6,842				
	September	18,560		ŀ	17,240		1		
	October	7,040		1	7,823				
	November	9,788			10,950		1		
	December	11,666		147,055			160,782		
2003	January	20,278		1	23,526		1		
	February	8,603			5,310		1		
	March	37,680			35,548				
	1	37,000			30,540	4.,504			I

TABLE 1

TABLE 1 2011 BW-28 Annual Report Brine Well Production Volumes and Lifetime History Volumes

	IAB	LE 1 2011 B	W-28 Annua	Report Brin	e well Prodi	iction volum	es and Lifeti	me History	volumes
Year	Month	Reported Monthly Brine Production	Quarterly Brine Production (bbls)	Annual Brine Production (bbls)	Reported Monthly Freshwater Injection	Quarterly Freshwater Injection (bbls)	Annual Freshwater Injection (bbis)	Comments	Operator
		(bbis)	(505)		(bbls)	(DOS)	(0015)		
	April	31,782			31,619	-			
	May	17,767			13,305				
	June	10,733	60,282		9,260	54,184			1
	July	27,104			13,927				
	August	9,555			7,197				
	September	7,945	44,604		5,056	26,180			
	October	12,014			10,394				į –
	November December	26,100 38,748	76,862	248,309	12,438 18,218	41,050	185,798		
2004	January	7,980	70,602	240,303	8,539	42,030	105,750		
2004	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	l i		
	July August	1,840 29,898			2,060 30,201				
	September	20,277	52,015		20,266	52,527			
	October	24,436	52,525		23,784	23,027			
	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 37,896	70.600		24,958				
	March April	29,882	79,698		40,435 31,794	84,553	i l		
	May	39,575			42,385				
 	June	22,766	92,223		23,995	98,174			1
	July	7,593			7,640		1		
	August	31,573			29,316				
	September	47,305	86,471		48,230	85,186			
	October November	38,571 31,533			51,232 27,670				1
	December	36,430	106,534	364,926		115,314	383,227		1
2006	January	18,480	200,02	33.7223	19,977	223,222			1
	February	33,250			35,511	•	1		
	March	39,492	91,222		38,630				
	April	40,194			43,605				
	May June	51,009 22,374	113,577		54,630 24,832				i
	July	38,208	113,377		37,613				!
	August	35,627			36,201	1	1		1
	September	48,784	122,619		47,312	121,126			
	October	50,375			51,232				
L	November	26,084	24 403	412.404	27,670 10,202		427,415		{
2007	December January	8,224 31,540	84,683	412,101	33,320	89,104	72/,713	<u> </u>	1
2007	February	24,313		ļ	25,260	1			Change to Key Energy Services
	March	40,514	96,367		38,412	96,992	j		
	April	34,095			35,120				
	May	19,308		1	23,130				}
	June	9,170	62,573		11,009 28,468				
	July August	30,857 12,394			18,884				1
	September	25,970	69,221		23,360				
	October	7,882			7,643				ļ
	November	2,476			2,630		35. 55.		-
2000	December January	3,933 1,706		242,452	4,528 1,982		251,764		
2008	February	5,845			6,203		i		
	March	21,386		1	21,673				
	April	25,787		1	22,704]]
	May	17,100		1	19,842				1
	June	16,598			17,479		1		
	July	32,458 37,458			36,448 38,377				1
	August September	39,945			37,203				1
	October	25,572			26,551				1
	November	27,325			25,792]			
	December	26,825	79,722	278,005	28,694	81,037	282,948		1
2009	January	20,990			21,310				1
ļ	February	650			1,306				1
<u></u>	March	3,249		1	3,420		1		1
	April May	5,428 1,343			5,360 1,762				1
	June	630			1,232				1
	July	1,546			1,673]		
	August	881]	1	1,031	}			
	September	2,672	5,099	L	2,930	5,634	L		

TABLE 1 TABLE 1 2011 BW-28 Annual Report Brine Well Production Volumes and Lifetime History Volumes Reported Monthly Reported Quarterly Quarterly Annual Annual Brine Monthly Brine Freshwater Freshwate Year Month Brine Production Freshwater Comments Operator Production Injection Injection Production (bbls) Injection (bbls) (bbls) (bbls) (bbls) (bbls) 9,898 3,716 1,474 8,861 October 3,618 2,035 November December 15,088 52,477 14,514 54,538 2010 January 1,650 4,092 5,092 12,256 2,099 5,068 10,270 11,281 7,575 20,304 36,765 1,810 February 4,789 6,150 14,953 6,599 March 5,742 April May 2,033 6,322 June 19,447 23,136 July 15,126 10,334 August 31,782 September 26,619 8,802 24,494 October November 44,153 52,975 29,666 23,284 22,365 138,966 December 64,644 116,452 77,449 2011 January 44,126 24,388 19,421 February March April 87,935 105,925

11,754 18,902 20,961 17,273

16,000

8,284 19,662

27,806

53,021

54,234

55,752

4,074,428

222,286 3,989,782

43,845

37,334

53,172

18,356 9,828 15,661 17,503 14,401

5,430 11,359 18,585

23,228

May

June

July August

December TOTAL VOLUMES

September

October November

^{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 2011

MONTH	WATER IN	WATER OUT	PSI	RATIO OF WATER	IN-OUT
Jan-11	52,975	44,126	100	16.70%	***
Feb-11	29,666	24,388	100	17.79%	***
Mar-11	23,284	19,421	100	16.59%	***
Apr-11	22,365	18,356	100	17.93%	***
May-11	11,754	9,828	100	16.39%	***
Jun-11	18,902	15,661	100	17.15%	***
Jul-11	20,961	17,503	100	16.50%	***
Aug-11	17,273	14,401	100	16.63%	***
Sep-11	16,000	5,430	100	66.06%	***
Oct-11	8,284	11,359	100	-37.12%	***
Nov-11	19,662	18,585	100	5.48%	***
Dec-11	27,806	23,228	100	16.46%	***
TOTAL	268,932	222,286			

YEARLY RATIO % MONTHLY AVERAGE %

BRINE PRODUCTION BBLS 222,286 FRESH WATER INJECTION BBLS 268,932

17.34% 15.44%

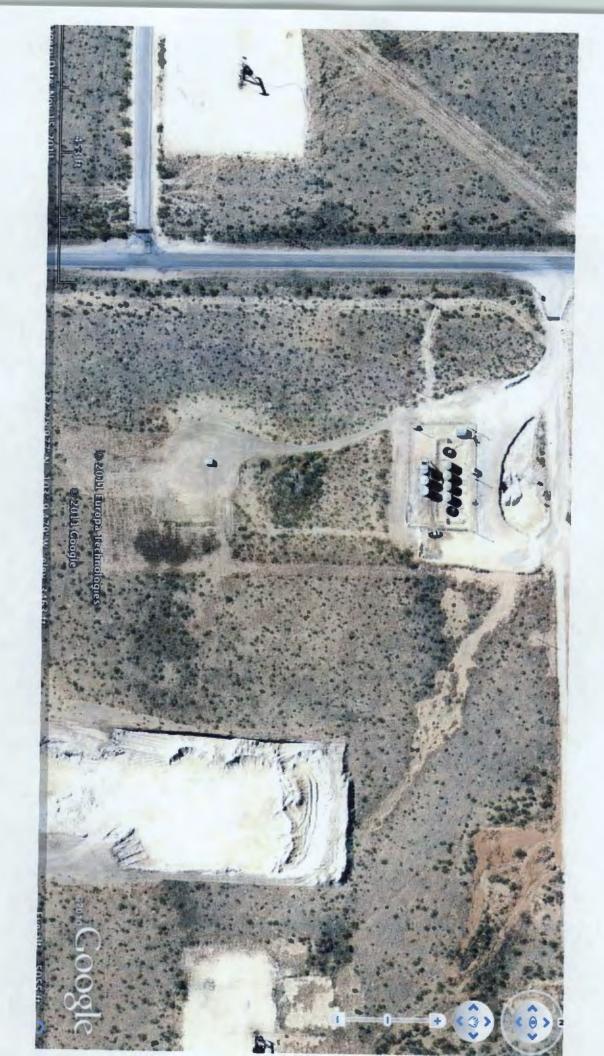
NOTES:

- *** 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



APPENDIX B

Fresh and Brine Water LABORATORY REPORT

CHAIN OF CUSTODY

November 17, 2011

LESTER WAYNE PRICE, JR

PRICE LLC

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO, NM 87124

RE: GUINT BRINE WELL

EUNICE BRINE WELL AT

Enclosed are the results of analyses for samples received by the laboratory on 10/19/11 13:30.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021

Benzene, Toluene, Ethyl Benzene, and Total Xylenes

Method SW-846 8260

Benzene, Toluene, Ethyl Benzene, and Total Xylenes

Method TX 1005

Total Petroleum Hydorcarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2

Haloacetic Acids (HAA-5)

Method EPA 524.2

Total Trihalomethanes (TTHM)

Method EPA 524.4

Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

Celey D. Keine

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



Analytical Results For:

PRICE LLC

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO NM, 87124

Project: GUINI BRINE WELL

Project Number: NONE GIVEN

Project Manager: LESTER WAYNE PRICE, JR

Fax To: UNK-NOWN

Reported:

17-Nov-11 11:10

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FRESHWATER	H102262-01	Water	19-Oct-11 10:50	19-Oct-11 13:30
BRINE WATER	H102262-02	Water	19-Oct-11 11:00	19-Oct-11 13:30

Cardinal Laboratories

*=Accredited Analyte

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Celey & Keine



Reported:

17-Nov-11 11:10

Analytical Results For:

PRICE LLC

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO NM, 87124

Project: GUINI BRINE WELL

Project Number: NONE GIVEN

Project Manager: LESTER WAYNE PRICE, JR

Fax To: UNK-NOWN

FRESHWATER H102262-01 (Water)

Reporting

Analyte	Result	Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
		Cardina	ıl Laborat	ories					
Total Metals by ICPMS	·								
Arsenic	0.0070	0.0005	mg/L	1	1111412	JM	02-Nov-11	200.8	GAI
Berium	0.0610	0.000500	mg/L	1	1111412	JМ	02-Nov-11	200.8	GAI
Cadmium	ND	0.00010	mg/L	1	1111412	JМ	02-Nov-11	200.8	GA
Chromium	ND	0.001	mg/L	1	1111412	JM	02-Nov-11	200.8	GA
Cobalt	ND	0.00010	mg/L	1	1111412	JМ	02-Nov-11	200.8	GA
Copper	0.0254	0.0001	mg/L	1	1111412	JМ	02-Nov-11	200.8	GAL
Lead	ND	0.0005	mg/L	1	1111412	JМ	02-Nov-11	200.8	GA
Manganese	ND	0.0050	mg/L	10	1111412	JM	11-Nov-11	200.8	GAI
Molybdenum	0.0033	0.0005	mg/L	1	1111412	JМ	02-Nov-11	200.8	GAI
Nickel	0.0014	0.0005	mg/L	1	1111412	JМ	02-Nov-11	200.8	GA
Selenium	0.005	0.001	mg/L	1	1111412	JM	02-Nov-11	200.8	GA
Silver	ND	0.00010	mg/L	1	1111412	JM	02-Nov-11	200.8	GA
Uranium	0.00280	0.000100	mg/L	1	1111412	JМ	02-Nov-11	200.8	GA
Zinc	ND	0.010	mg/L	10	1111412	JM	11-Nov-11	200.8	GA
Mercury (Total) by CVAA									
Mercury	ND	0.0002	mg/L	1	1111411	ЛМ	27-Oct-11	245.1	GA
Inorganic Compounds									
Alkalinity, Bicarbonate	229	5.00	mg/L	1	1102105	НМ	21-Oct-11	310.1M	
Alkalinity, Carbonate	ND	0.00	mg/L	1	1102105	нм	21-Oct-11	310.1M	
Chloride	68.0	16.0	mg/L	4	1101905	HM	21-Oct-11	4500-CI-B	
Conductivity	683	1.00	uS/cm	1	1102705	HM	20-Oct-11	120.1	
Cyanide (total)	ND	0.005	mg/L	1	1111413	CK	26-Oct-11	335.4	GA
Fluoride	1.04	0.200	mg/L	1	1111414	CK	01-Nov-11	4500F C	GA
pH	7.64	0.100	pH Units	1	1102705	HM	20-Oct-11	150.1	
Specific Gravity @ 60° F	0.9934	0.000	[blank]	1	1110307	HM	28-Oct-11	SM 2710F	
Sulfate	70.3	10.0	mg/L	1	1103102	HM	28-Oct-11	375.4	
TDS	433	5.00	mg/L	1	1102603	HM	22-Oct-11	160.1	
Alkalinity, Total	188	4.00	mg/L	1	1102105	НМ	21-Oct-11	310.1M	

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Celey D. Keens



Reported:

17-Nov-11 11:10

Analytical Results For:

PRICE LLC

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO NM, 87124

Project: GUINI BRINE WELL

Project Number: NONE GIVEN

Project Manager: LESTER WAYNE PRICE, JR

Fax To: UNK-NOWN

FRESHWATER H102262-01 (Water)

10 ,	Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
•			Cardinal	Labora	tories					
-	Inorganic Compounds									
-	TSS	12.0	2.00	mg/L	1	1111105	HM	25-Oct-11	160.2	
_ ;	TOTAL METALS BY ICP									
-	Aluminum	ND	0.0500	mg/L	1	1111410	JM	26-Oct-11	200.7	GAL
	Boron	ND	0.300	mg/L	1	1111410	JM	26-Oct-11	200.7	GAL
	Iron	0.079	0.060	mg/L	1	1111410	JМ	26-Oct-11	200.7	GAL

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Analytical Results For:

PRICE LLC

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO NM, 87124

Project: GUINI BRINE WELL

Project Number: NONE GIVEN

Project Manager: LESTER WAYNE PRICE, JR

Fax To: UNK-NOWN

Reported: 17-Nov-11 11:10

BRINE WATER H102262-02 (Water)

~	Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
			Cardina	l Laborate	ories					
*****	Total Metals by ICPMS									
	Arsenic	ND	0.0500	mg/L	100	1111412	JM	02-Nov-11	200.8	GAL
	Barium	0.0575	0.0500	mg/L	100	1111412	JM	02-Nov-11	200.8	GAL
	Cadmium	ND	0.0100	mg/L	100	1111412	JM	02-Nov-11	200.8	GAL
-	Chromium	ND	0.100	mg/L	100	1111412	JМ	02-Nov-11	200.8	GAL
•	Cobalt	ND	0.0100	mg/L	100	1111412	JМ	02-Nov-11	200.8	GAL
	Copper	0.407	0.0100	mg/L	100	1111412	JM	02-Nov-11	200.8	GAL
-	Lead	ND	0.0500	mg/L	100	1111412	JM	02-Nov-11	200.8	GAL
	Manganese	0.421	0.0050	mg/L	10	1111412	JM	11-Nov-11	200.8	GAL
	Molybdenum	ND	0.0500	mg/L	100	1111412	JМ	02-Nov-11	200.8	GAL
_	Nickel	ND	0.0500	mg/L	100	1111412	JM	02-Nov-11	200.8	GAL
-	Selenium	ND	0.100	mg/L	100	1111412	JМ	02-Nov-11	200.8	GAL
	Silver	ND	0.0100	mg/L	100	1111412	JM	02-Nov-11	200.8	GAL
	Uranium	0.0294	0.0100	mg/L	100	1111412	JМ	02-Nov-11	200.8	GAL
****	Zinc	ND	0.010	mg/L	10	1111412	JМ	11-Nov-11	200.8	GAL
-	Mercury (Total) by CVAA									
	Mercury	ND	0.0002	mg/L	1	1111411	ЛМ	27-Oct-11	245.1	GAL
***	Inorganic Compounds									
•	Alkalinity, Bicarbonate	181	5.00	mg/L	1	1102105	HM	21-Oct-11	310.1M	
	Alkalinity, Carbonate	ND	0.00	mg/L	1	1102105	HM	21-Oct-11	310.1M	
4	Chloride	136000	16.0	mg/L	4	1101905	НМ	21-Oct-11	4500-CI-B	
	Conductivity	397000	1.00	uS/cm	1	1102705	НМ	20-Oct-11	120.1	
•	Cyanide (total)	ND	0.005	mg/L	1	1111413	CK	26-Oct-11	335.4	GAL
75 Tab.	Fluoride	1.04	0.200	mg/L	1	1111414	CK	01-Nov-11	4500F C	GAL
-	pН	6.80	0.100	pH Units	1	1102705	HM	20-Oct-11	150.1	
	Specific Gravity @ 60° F	1.131	0.000	[blank]	1	1110307	HM	28-Oct-11	SM 2710F	
	Sulfate	6160	10.0	mg/L	i	1103102	HM	28-Oct-11	375.4	
1500	TDS	210000	5.00	mg/L	1	1102603	нм	22-Oct-11	160.1	
	Alkalinity, Total	148	4.00	mg/L	1	1102105	НМ	21-Oct-11	310.1M	

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Analytical Results For:

PRICE LLC

Project: GUINI BRINE WELL

Reported:

312 ENCANTADO RIDGE COURT, NE

Project Number: NONE GIVEN

17-Nov-11 11:10

RIO RANCHO NM, 87124

Project Manager: LESTER WAYNE PRICE, JR

Fax To: UNK-NOWN

BRINE WATER H102262-02 (Water)

•	Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
•			Cardinal	Labora	tories					
-	Inorganic Compounds									
	TSS	96.0	2.00	mg/L	1	1111105	НМ	25-Oct-11	160.2	
	TOTAL METALS BY ICP									
•	Aluminum	1.39	0.500	mg/L	10	1111410	JM	26-Oct-11	200.7	GAL
	Boron	10.9	3.00	mg/L	10	1111410	JM	26-Oct-11	200.7	GAL
_	Iron	ND	0.600	mg/L	10	1111410	JM	26-Oct-11	200.7	GAL

Cardinal Laboratories *=Accredited Analyte

Celey D. Keine



Analytical Results For:

PRICE LLC

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO NM, 87124

Project: GUINI BRINE WELL

Project Number: NONE GIVEN

Project Manager: LESTER WAYNE PRICE, JR

Fax To: UNK-NOWN

Reported: 17-Nov-11 11:10

Total Metals by ICPMS - Quality Control

Cardinal Laboratories

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 1111412 - EPA 3005

Blank (1111412-BLK1)				Prepared: 01-Nov-11 Analyzed: 02-Nov-11	
Chromium	ND	0.001	mg/L		
Silver	ND	0.00010	mg/L		
Molybdenum	ND	0.0005	mg/L		
Lead	ND	0.0005	mg/L		
Barium	ND	0.000500	mg/L		
Cadmium	ND	0.00010	mg/L		
Zinc	0.018	0.001	mg/L		Bl
Cobalt	ND	0.00010	mg/L		
Copper	ND	0.0001	mg/L		
Manganese	0.0035	0.0005	mg/L		Bl
Uranium	ND	0.000100	mg/L		
Arsenic	ND	0.0005	mg/L		
Selenium	ND	0.001	mg/L		
Nickel	ND	0.0005	mg/L		

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%REC

Analytical Results For:

PRICE LLC

Project: GUINI BRINE WELL

Spike

Reported:

312 ENCANTADO RIDGE COURT, NE

Project Number: NONE GIVEN

Project Manager: LESTER WAYNE PRICE, JR

Source

17-Nov-11 11:10

RPD

RIO RANCHO NM, 87124

Fax To: UNK-NOWN

Total Metals by ICPMS - Quality Control

Cardinal Laboratories

Analyte	Result	Limit Unit	s Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 1111412 - EPA 3005									
LCS (1111412-BS1)			Prepared:	01-Nov-11 A	nalyzed: 0	2-Nov-11			
Silver	0.0521	mg/l	0.0500		104	85-115			
Molybdenum	0.0542	mg/l	0.0500		108	85-115			
Zinc	0.059	mg/l	0.0500		118	85-115			BS1
Cobalt	0.0515	mg/l	0.0500		103	85-115			
Arsenic	0.0529	mg/l	0.0500		106	85-115			
Nickel	0.0504	mg/l	0.0500		101	85-115			
Uranium	0.0490	mg/l	0.0500		98.0	85-115			
Lead	0.0503	mg/l	0.0500		101	85-115			
Selenium	0,273	mg/l	0.250		109	85-115			
Copper	0.0502	mg/l	0.0500		100	85-115			
Chromium	0.049	mg/l	0.0500		98.6	85-115			
Manganese	0.0429	mg/l	0.0500		85.8	85-115			
Barium	0.0503	mg/l	0.0500		101	85-115			
Cadmium	0.0507	mg/l	0.0500		101	85-115			

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keens



Reported:

17-Nov-11 11:10

Analytical Results For:

PRICE LLC

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO NM, 87124

Project: GUINI BRINE WELL

Project Number: NONE GIVEN

Project Manager: LESTER WAYNE PRICE, JR

Fax To: UNK-NOWN

Total Metals by ICPMS - Quality Control

Cardinal Laboratories

		Reporting	Spike	Source		%REC		RPD	
Analyte	Result	Limit Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 1111412 - EPA 3005									
LCS Dup (1111412-BSD1)			Prepared: 0	01-Nov-11 A	Analyzed: 0	2-Nov-11			
Uranium	0.0485	mg/L	0.0500		97.0	85-115	1.03	20	
Silver	0.0483	mg/L	0.0500		96.6	85-115	7.57	20	
Nickel	0.0493	mg/L	0.0500		98.6	85-115	2.21	20	
Lead	0.0498	mg/L	0.0500		99.6	85-115	0.999	20	
Chromium	0.049	mg/L	0.0500		98.2	85-115	0.407	20	
Barium	0.0492	mg/L	0.0500		98.4	85-115	2.21	20	
Selenium	0.256	mg/L	0.250		102	85-115	6.43	20	
Cobalt	0.0503	mg/L	0.0500		101	85-115	2.36	20	
Zinc	0.065	mg/L	0.0500		130	85-115	9.52	20	BSI
Molybdenum	0.0523	mg/L	0.0500		105	85-115	3.57	20	
Manganese	0.0443	mg/L	0.0500		88.6	85-115	3.21	20	
Copper	0.0487	mg/L	0.0500		97.4	85-115	3.03	20	
Cadmium	0.0501	mg/L	0.0500		100	85-115	1.19	20	
Arsenic	0.0505	mg/L	0.0500		101	85-115	4.64	20	

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Reported:

17-Nov-11 11:10

Analytical Results For:

PRICE LLC

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO NM, 87124

Project: GUINI BRINE WELL

Project Number: NONE GIVEN

Project Manager: LESTER WAYNE PRICE, JR

Fax To: UNK-NOWN

Total Metals by ICPMS - Quality Control

Cardinal Laboratories

%REC RPD Reporting Spike Source Limit Result Limit Units Level Result %REC Limits RPD Notes Analyte

Mercury (Total) by CVAA - Quality Control

Cardinal Laboratories

%REC RPD Spike Reporting Source Level RPD Limit Analyte Result Limit Units Result %REC Limits Notes

Batch 1111411 - EPA 245.1

 Blank (1111411-BLK1)
 Prepared & Analyzed: 27-Oct-11

 Mercury
 ND
 0.0002
 mg/L

 LCS (1111411-BS1)
 Prepared & Analyzed: 27-Oct-11

 Mercury
 0.0022
 mg/L
 0.00200
 110
 85-115

 LCS Dup (1111411-BSD1)
 Prepared & Analyzed: 27-Oct-11

 Mercury
 0.0021
 mg/L
 0.00200
 105
 85-115
 4.65
 20

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Celey & Keene



Analytical Results For:

PRICE LLC

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO NM, 87124

Project: GUINI BRINE WELL

Project Number: NONE GIVEN

Project Manager: LESTER WAYNE PRICE, JR

Fax To: UNK-NOWN

Reported: 17-Nov-11 11:10

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1101905 - SPLP 1312										
Blank (1101905-BLK1)				Prepared: 1	7-Oct-11 A	nalyzed: 20	0-Oct-11			
Chloride	ND	4.00	mg/L							
LCS (1101905-BS1)				Prepared: 1	7-Oct-11 A	nalyzed: 20	0-Oct-11			
Chloride	112	4.00	mg/L	100		112	80-120			
LCS Dup (1101905-BSD1)				Prepared: 1	7-Oct-11 A	nalyzed: 20	0-Oct-11			
Chloride	108	4.00	mg/L	100		108	80-120	3.64	20	
Batch 1102105 - General Prep - Wet Chem										
Blank (1102105-BLK1)				Prepared &	Analyzed:	21-Oct-11				
Alkalinity, Carbonate	ND	0.00	mg/L							
Alkalinity, Bicarbonate	ND	5.00	mg/L							
Alkalinity, Total	ND	4.00	mg/L							
LCS (1102105-BS1)				Prepared &	: Analyzed:	21-Oct-11				
Alkalinity, Carbonate	ND	0.00	mg/L				80-120			
Alkalinity, Bicarbonate	ND	5.00	mg/L				80-120			
Alkalinity, Total	112	4.00	mg/L	100		112	80-120			
LCS Dup (1102105-BSD1)				Prepared &	Analyzed:	21-Oct-11				
Alkalinity, Carbonate	ND	0.00	mg/L				80-120		20	
Alkalinity, Bicarbonate	ND	5.00	mg/L				80-120		20	
Alkalinity, Total	120	4.00	mg/L	100		120	80-120	6.90	20	
Duplicate (1102105-DUP1)	Source: H102248-02		02	Prepared &	: Analyzed:	Analyzed: 21-Oct-11				
Alkalinity, Carbonate	ND	0.00	mg/L		0.00				20	
Alkalinity, Bicarbonate	156	5.00	mg/L		161			3.15	20	
Alkalinity, Total	128	4.00	mg/L		132			3.08	20	

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's Rability and client's exclusive remady for any claim arising, whether based in contract or tont, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatevers shall be deemed welved unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be Bable for incidental or consequential damages, including, without limitation, business interruptions, loss or use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claims is based upon any of the above stated reasons or otherwise. Results relate only to the samples Identified above. This report shall not be reproduced except in full with written accrowel of Cardinal Laboratonies.

Celey D. Keene



Analytical Results For:

PRICE LLC

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO NM, 87124

Project: GUINI BRINE WELL

Project Number: NONE GIVEN

Project Manager: LESTER WAYNE PRICE, JR

Fax To: UNK-NOWN

Reported: 17-Nov-11 11:10

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Note
Batch 1102105 - General Prep - Wet Chem										
Matrix Spike (1102105-MS1)	Sou	rce: H102248	-02	Prepared &	Analyzed:	21-Oct-11				
Alkalinity, Carbonate	ND	0.00	mg/L		0.00		70-130			
Alkalinity, Bicarbonate	283	5.00	mg/L		161		70-130			
Alkalinity, Total	232	4.00	mg/L	100	132	100	70-130			
Batch 1102603 - *** DEFAULT PREP ***										
Blank (1102603-BLK1)				Prepared: 2	2-Oct-11 A	nalyzed: 2	6-Oct-11			
TDS	ND	5.00	mg/L							-
LCS (1102603-BS1)			Prepared: 22-Oct-11 Analyzed: 26-Oct-11							
TDS	235		mg/L	240		97.9	80-120			
Duplicate (1102603-DUP1)	Sou	rce: H102277	-01	Prepared: 2	2-Oct-11 A					
TDS	3260	5.00	mg/L		3260			0.00	20	
Batch 1102705 - General Prep - Wet Chem										
LCS (1102705-BS1)				Prepared &	Analyzed:	20-Oct-11				
Conductivity	509		uS/cm	500		102	80-120			
pH	7.11		pH Units	7.00		102	90-110			
Duplicate (1102705-DUP1)	Source: H102247-01		Prepared & Analyzed: 20-Oct-11							
pH	7.75	0.100	pH Units		7.73			0.258	20	
Conductivity	1410	1.00	uS/cm		1410			0.00	20	

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Celey D. Keene



Reported:

17-Nov-11 11:10

Analytical Results For:

PRICE LLC

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO NM, 87124

Project: GUINI BRINE WELL

Project Number: NONE GIVEN

Project Manager: LESTER WAYNE PRICE, JR

Fax To: UNK-NOWN

Inorganic Compounds - Quality Control

Cardinal Laboratories

ő.											
*	Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
-	Batch 1103102 - General Prep - Wet Chem										
-	Blank (1103102-BLK1)				Prepared &	Analyzed:	28-Oct-11				
	Sulfate	ND	10.0	mg/L							
•	LCS (1103102-BS1)				Prepared &	Analyzed:	28-Oct-11				
-	Sulfate	20.9	10.0	mg/L	20.0		104	80-120			
-	LCS Dup (1103102-BSD1)				Prepared &	Analyzed:	28-Oct-11				
_	Sulfate	18.2	10.0	mg/L	20.0		91.0	80-120	13.8	20	
-	Duplicate (1103102-DUP1)	Sou	rce: H102247-	Prepared &	Analyzed:	28-Oct-11					
-	Sulfate	70.1	10.0	mg/L		67.5			3.78	20	
_	Batch 1110307 - General Prep - Wet Chem										
•	Duplicate (1110307-DUP1)	Sou	rce: H102247-	N1	Prepared &	Analyzed:	28-Oct-11				
	Specific Gravity @ 60° F	0.9950	0.000	[blank]	Поршост	0.9969	20-001-11	0.194	200	******	
	D. I. 4444107 FW. 45										
	Batch 1111105 - Filtration				~~			·······			
	Blank (1111105-BLK1)				Prepared &	Analyzed:	25-Oct-11				
	TSS	ND	2.00	mg/L							
-	Duplicate (1111105-DUP1)	Source: H102248-01		Prepared & Analyzed: 25-Oct-11							
-	TSS	6.00	2.00	mg/L	6.00			0.00	20		
	Batch 1111413 - General Prep										
-	Blank (1111413-BLK1)				Prepared: 3	25-Oct-11 A	nalyzed: 26	5-Oct-11			
*	Cyanide (total)	ND	0.005	mg/L	ricparcu.						
	• • • • • • • • • • • • • • • • • • • •			•							

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Celey D. Keine



Analytical Results For:

PRICE LLC

Project: GUINI BRINE WELL

Reported:

312 ENCANTADO RIDGE COURT, NE

Project Number: NONE GIVEN

17-Nov-11 11:10

RIO RANCHO NM, 87124

Project Manager: LESTER WAYNE PRICE, JR

Fax To: UNK-NOWN

Inorganic Compounds - Quality Control

Cardinal Laboratories

Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes						
			Prepared: 2	25-Oct-11 A	Analyzed: 2	6-Oct-11									
0.042		mg/L	0.0500		85.0	85-115	-								
			Prepared: 2	25-Oct-11 A	analyzed: 2	6-Oct-11									
0.047		mg/L	0.0500		94.8	85-115	10.9	20							
			Prepared &	: Analyzed:	01-Nov-11	l									
ND	0.200	mg/L													
			Prepared &	: Analyzed:	01-Nov-11										
1.09		mg/L	1.00		109	80-120									
			Prepared &	: Analyzed:	01-Nov-11										
1.09		mg/L	1.00		109	80-120	0.00	20							
	0.042 0.047 ND	ND 0.200	ND 0.200 mg/L 1.09 mg/L	Result Limit Units Level	Prepared: 25-Oct-11 A	Prepared: 25-Oct-11 Analyzed: 200.042 mg/L 0.0500 85.0	Prepared: 25-Oct-11 Analyzed: 26-Oct-11	Prepared: 25-Oct-11 Analyzed: 26-Oct-11	Prepared: 25-Oct-11 Analyzed: 26-Oct-11						

Cardinal Laboratories

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Celey D. Keine



Analytical Results For:

PRICE LLC

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO NM, 87124

Project: GUINI BRINE WELL

Project Number: NONE GIVEN

Project Manager: LESTER WAYNE PRICE, JR

Fax To: UNK-NOWN

Reported: 17-Nov-11 11:10

TOTAL METALS BY ICP - Quality Control

Cardinal Laboratories

			D		6.7.	C		A/DEC		DDD			
	Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes		
	Analyte	Result	Limit	Units	Level	Result	76REC	Limis	KPD	Limit	Notes		
*	Batch 1111410 - EPA 3005												
-	Blank (1111410-BLK1)				Prepared: 2	5-Oct-11 A	nalyzed: 20	6-Oct-11					
	Aluminum	ND	0.0500	mg/L									
	Iron	ND	0.060	mg/L									
	Boron	ND	0.300	mg/L									
	LCS (1111410-BS1)				Prepared: 2	5-Oct-11 A	nalyzed: 20	5-Oct-11					
	Boron	3.86		mg/L	4.00		96.5	85-115					
	Aluminum	3.94		mg/L	4.00		98.5	85-115					
99	Iron	3.89		mg/L	4.00		97.2	85-115					
-	LCS Dup (1111410-BSD1)	Prepared: 25-Oct-11 Analyzed: 26-Oct-11											
	Boron	3.89		mg/L	4.00		97.2	85-115	0.774	20			
	Iron	3.92		mg/L	4.00		98.0	85-115	0.768	20			
	Aluminum	3.95		mg/L	4.00		98.8	85-115	0.253	20			

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any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be labele for incidental or corresponding, without limitation, business interruptions, loss of use, or loss of profits incurred by Cardinal, regardless or successors arising out of or related to the performance of the services hersunder by Cardinal, regardless or distinct limitation, business interruptions, loss of use, or loss of profits incurred by Cardinal, regardless or successors arising out of or related to the performance of the services hersunder by Cardinal, regardless or successors arising out of or related to the performance or otherwise. Results related only to the semples identified above. This report shall not be reproduced except in full with written approval of Cardinal Luboratories.

Celey & Keine



Notes and Definitions

Analysis subcontracted to Green Analytical Laboratories, a subsidiary of Cardinal Laboratories.

Biank spike recovery above laboratory acceptance criteria. Results for analyte potentially biased high.

Target analyte detected in method blank at or above method reporting limit. Sample concentration found to be 10 times above the concentration found in the method blank or less than the reporting limit.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

** Samples not received at proper temperature of 6°C or below.

Insufficient time to reach temperature.

Chloride by SM4500Cl-8 does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

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Celey & Keens



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476 Company Name: BILL TO **ANALYSIS REQUEST** P.O. #: Project Manager: Project #: Project Owner: EUNICE JO State: NH Zip: 2763 Project Name: Project Location: Sampler Name: Fax #: FOR LAB USE ONLY PRESERV. GROUNDWATER
WASTEWATER
SOIL
OIL
SLUDGE
OTHER:
ACIDIBASE:
ICE / COOL Sample I.D. Lab I.D. H102260 DATE | TIME analyses. All claims including those for negligence and any other cause whatspever shall be deemed waived unless made in willing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Caromal be fiable for incidental or consequental damages, including without linitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries Phone Result: ☐ Yes ☐ No Add'i Phone #: □ No Fax Result: Add'l Fax #: REMARKS: Relinquished By: Delivered By: (Circle One) Sample Condition CHECKED BY: (Initials) Cool Intact
Yes Yes
No No

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

Sampler - UPS - Bus - Other:

Page 17 of 17

APPENDIX C C-141 Spill Report and Photos

HOBBS OCD

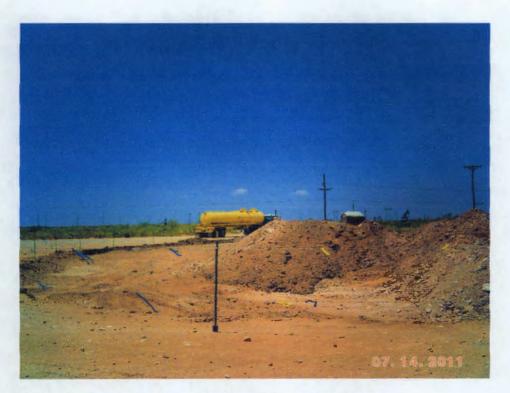
District I
1625 N. French Dr., Hobbs, NM 88240
District III
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aziec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resources JUN 0 6 2011 Form C-141 Revised October 10, 2003

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe. NM 87505 Revised October 10, 200
RECEVED Submit 2 Copies to appropria

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

			Rele	ase Notific	atio	n and Co	rrective A	ction				
					(OPERAT	OR	x[] Initi	al Report		Final Report
Name of Co	mpany Ke	y Energy Se	rvice			Contact	Bob Fisher					
Address		99 Eunice,				Telephone l	No. 575-394-25	81				-
Facility Nar		e S Water S					e Brine & Fr		er Sales			
Surface Ow	ner Decl	Estate		Mineral C)wner	State of N	ew Mexico		Lease 1	No. MS 000	4 000)1
			-	LOCA	TIO	N OF RE	LEASE AP	# 30	-157	- 330	747	-00-00
Unit Letter	Section	Township	Range	Feet from the	North	/South Line	Feet from the		est Line			00 00
E	15	215	37E	1340	north		330	w	est	Lea		
L	<u> </u>	Latitud	e_N32° 2	9' 02.2	L	Longitude_	W103° 09' 28.8	3"				
	NATURE OF RELEASE											
Type of Rele	ase over l	oaded truck					Release 100 bbl	s	Volume	Recovered		40 bbls
Source of Re			ruck-Bro	nco Services			lour of Occurrence	xe 5-	Date and	Hour of Dis	covery	5-30-2011
Was Immedi	ate Notice (Given?			· · · · · · · · · · · · · · · · · · ·	30-2011 (Whom? Noey F		@ 8 am pervisor	on duty		
		хC]Yes [□ No □ Not					•	•		-
Required						<u> </u>						:
By Whom?							lour 5-30-2011 (ablume Impacting (
was a water	course Kea		Yes x	□ No		11 1E3, V	nume impacing		course.			
If a Watercon	irse was Im	pacted, Descr	be Fully.	•								
		,										
									<u>GW9</u>	7631		
		em and Reme										
Bronco Servi	ces truck o	perater fell asi	eep while	loading his truck.	•							
Describe Are	a Affacted	and Cleanup A	Action Tel	ren *								
Area North o	f the loadin	g docks. Ram	on Ponce	with Bronco Serv	vices Wi	ill take care o	f the clean up & e	xpense				
1							-					
				is true and comp								
				nd/or file certain re se of a C-141 repo								
				investigate and n								
or the environ	nment. In a	ddition, NMO	CD accep	tance of a C-141	report d	loes not reliev	e the operator of	responsib	ility for c	ompliance v	rith an	y other
federal, state,	or local la	vs and/or regu	lations.	***************************************			OIL CON	CEDV	TION	DIVISIO	NAT .	
					-		OIL CON	<u> SERV</u>	AHON	DIVISIC	<u>//N</u>	
Signature: Ro	bert J Fish	2					ENV SPECIA	KICT.			_	
Printed Name	: Bob Fish	tr .				Approved by	District Supervis	or:	How	2026	M\	
Title: District	Manager					Approval Da	e: 06/08/11	E		Date: 08	108	lu
		M								ì		
E-mail Addre	ss: riisner(ukeyenergy.co	m			C-141 P	「Approval: SUB BY の8[08]	s warti''	FINAL	Attached	П	
Date: 5-3	31-2011			Phone: 575-39				••		ł	_	7761



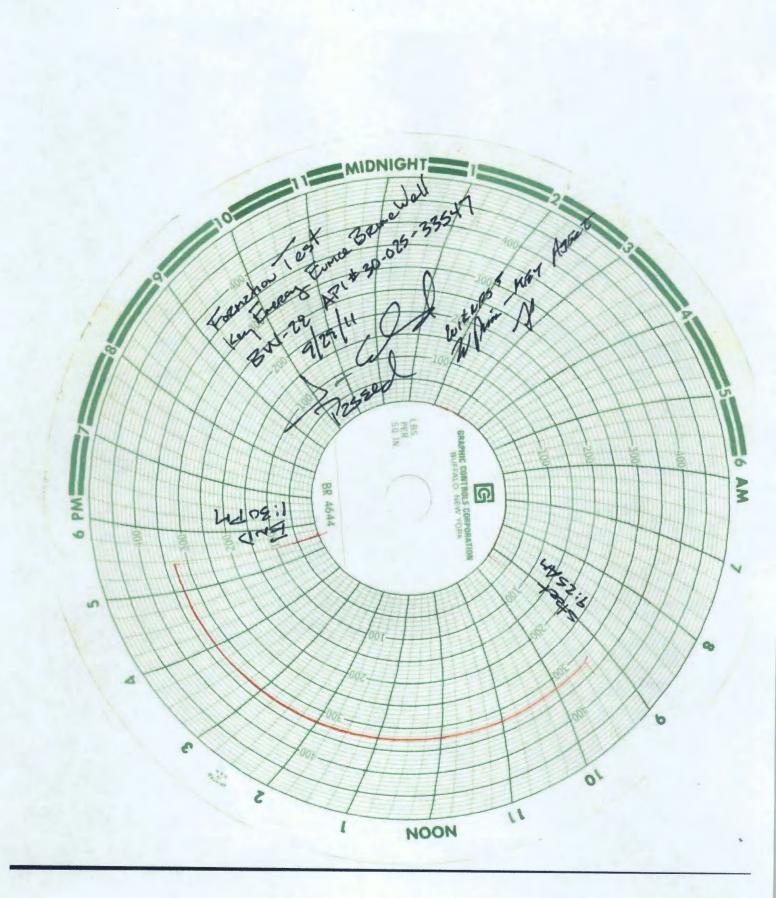
Key Energy BW-28 Brine Spill Area-looking west



Key Energy BW-28 shows loading pad area where brine water ran off pad. Spill was contained on-site.

APPENDIX D MIT TEST CHART

Submit I Copy To Appropriate District Office	State of New Mex OCDEnergy, Minerals and Natur		R	Form C-103 evised August 1, 2011
<u>District 1</u> – (575) 393-6161 HOBBS 1625 N. French Dr., Hobbs, NM 88240	Concretely, wither als and Natur	ai Resources	WELL API NO.	
	2011OIL CONSERVATION	DIVISION	30-025-33547	
<u>District·III</u> – (505) 334-6178	1220 South St. Fran	cis Dr.	5. Indicate Type of Lea	FEE
1000 Rio Brazos Rd., Aztec, NM 87410 <u>District IV</u> – (505) 476-3460 1220 S. St. Francis Dr., Santa Fe, N	Santa Fe, NM 87	505	6. State Oil & Gas Lea MS-0004	
SUNDRY NOT	ICES AND REPORTS ON WELLS SALS TO DRILL OR TO DEEPEN OR PLU CATION FOR PERMIT" (FORM C-101) FO	G BACK TO A R SUCH	7. Lease Name or Unit	Agreement Name
PROPOSALS.)			8. Well Number #1	
Type of Well: Oil Well Name of Operator	Gas Well Other Brine Well		9. OGRID Number	
Key Energy Services			9. OGRID Number	
3. Address of Operator			10. Pool name or Wild	cat
Box 99 Eunice, N.M. 88231			BSW-SALADO	
4. Well Location				
Unit LetterE W line	:1340feet from the	Nline	and330f	eet from the
Section 15	Township 21S	Range 37E	NMPM	County LEA
	11. Elevation (Show whether DR,	RKB, RT, GR, etc.		
12 Check	Appropriate Box to Indicate N	eture of Notice	Report or Other Data	
			-	Š.
PERFORM REMEDIAL WORK TEMPORARILY ABANDON DULL OR ALTER CASING	NTENTION TO: PLUG AND ABANDON CHANGE PLANS MULTIPLE COMPL	REMEDIAL WOR	RILLING OPNS. PAN	ERING CASING 🔲
DOWNHOLE COMMINGLE				
OTHER:	Χ□	OTHER: TE	ST FORMATION TO 350	!
 Describe proposed or com of starting any proposed w proposed completion or re 	pleted operations. (Clearly state all ports). SEE RULE 19.15.7.14 NMAC completion.	ertinent details, at C. For Multiple Co	nd give pertinent dates, inc ompletions: Attach wellbo	cluding estimated date ore diagram of
DDESSIDE FORMATION TO 35	0# WITH FRESH WATER FOR 4 F	IR TEST TEST	ΓDATE 9-29-2011	
- RESSURE FORMATION 1033	of Willingsh Walle Tok + 1	IK ILDI ILDI	DAIL SEPERIT	
		4		
			1 P	. •
•				, .
Spud Date:	Rig Release Da	nte:	``	
I hereby certify that the information	n above is true and complete to the b	est of my knowled	ge and belief.	
Non.				, ,
SIGNATURE foliation.	TITLE Sis	trict M	Anger DATE	9/21/011
Type or print name	E-mail address	5:	PHON	E:
For State Use Only				
APPROVED BY:	TITLE S	W N	DATE DATE	9-22-2011
Conditions of Approval-H any):			~	

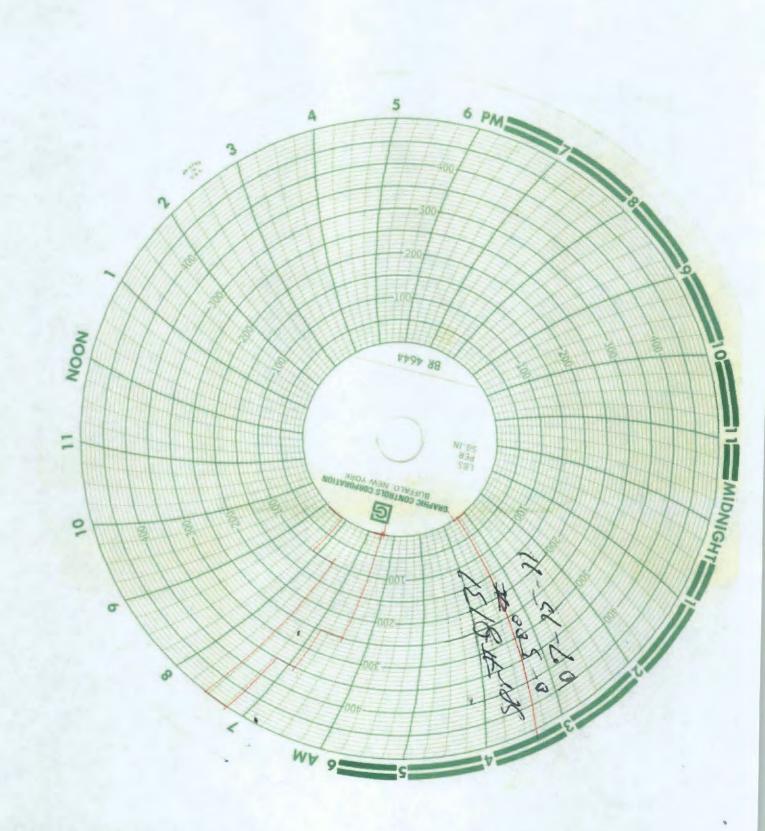


American Valve & Meter, Inc.

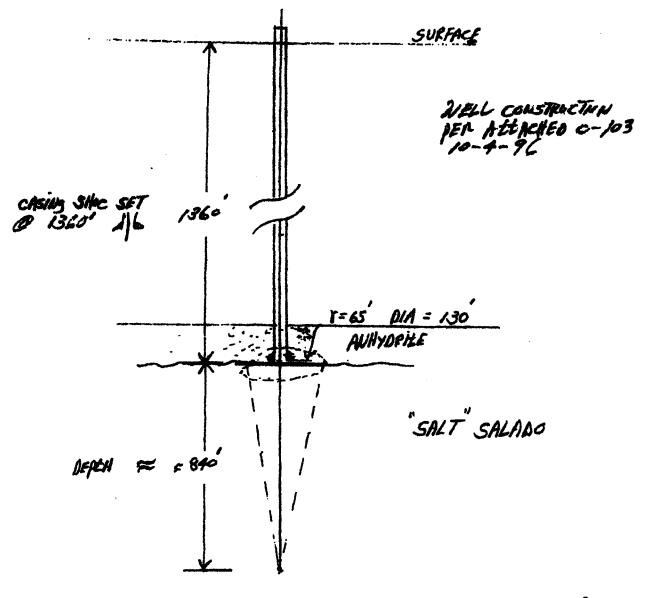
1113 W. BROADWAY P.O. BOX 166 HOBBS, NM 88240

TO:	Rev		DATE:_	07-15	-
	certify that:				
1 Buc	1 Collins		Technicism for A	merican Valve	d Meter
Inc., has	theched the call	bration of the	Following instrument	.	
B"fr	essure.	recorde	Seriel No	81.3	<u>'/</u>
at these p		.~.	•		T)-
Pressure	0-50	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Temperature		
Test	Found	Left	Test	Found	Left
0		0		-	
25° 25°		250			
350		350		-	
500	-	3-00	-		
100		100		· 10-10-1-1	
0	************	N			
Remark	IS:				<u>·</u>
<u> </u>					

Signature Bud Con



APPENDIX E BRINE CAVITY CALCULATIONS



Total Brino Produced Thru 2010 = 3,767,496 BBLS = 3.8 M Thru 2011 3,989,782 BBLS = 4.0 M 2011 NEW CALCULATIONS

L = 13.8 x 106.3

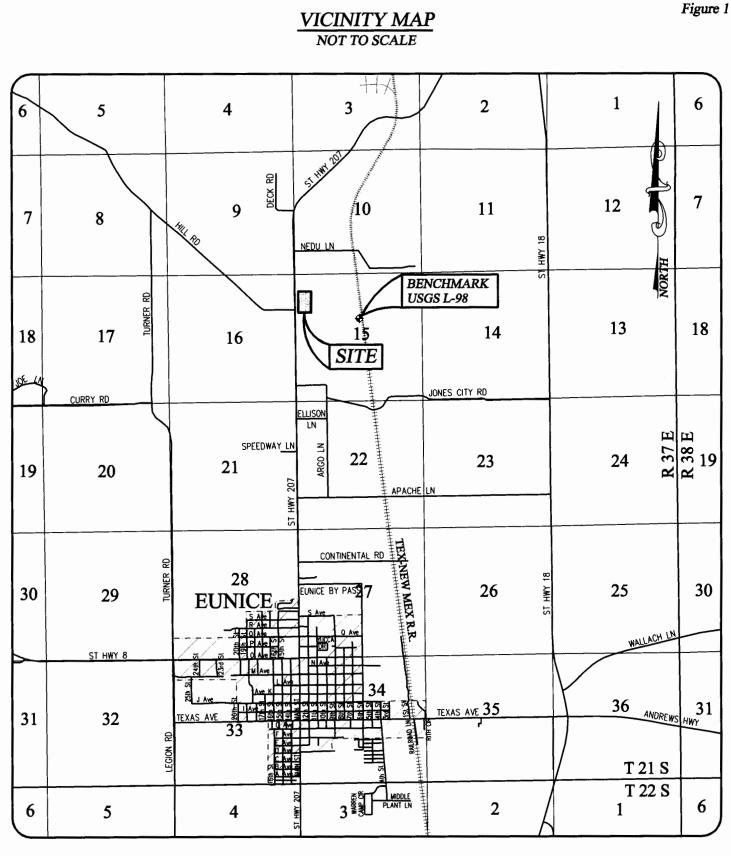
h = 65.78 = 66 ft h = 1360 ft

dx = ,097 ≃ .1

$$\Gamma = \sqrt{\frac{4.0 \times 10^6 \cdot 3}{17 \cdot 840}}$$
radius = $\Gamma = 67.43 \approx 68 \text{ ft}$

$$\frac{\text{diameter}}{\text{h}} = 1360 \text{ ft}$$

h= .1



EUNICE, NEW MEXICO AND SURROUNDING AREA

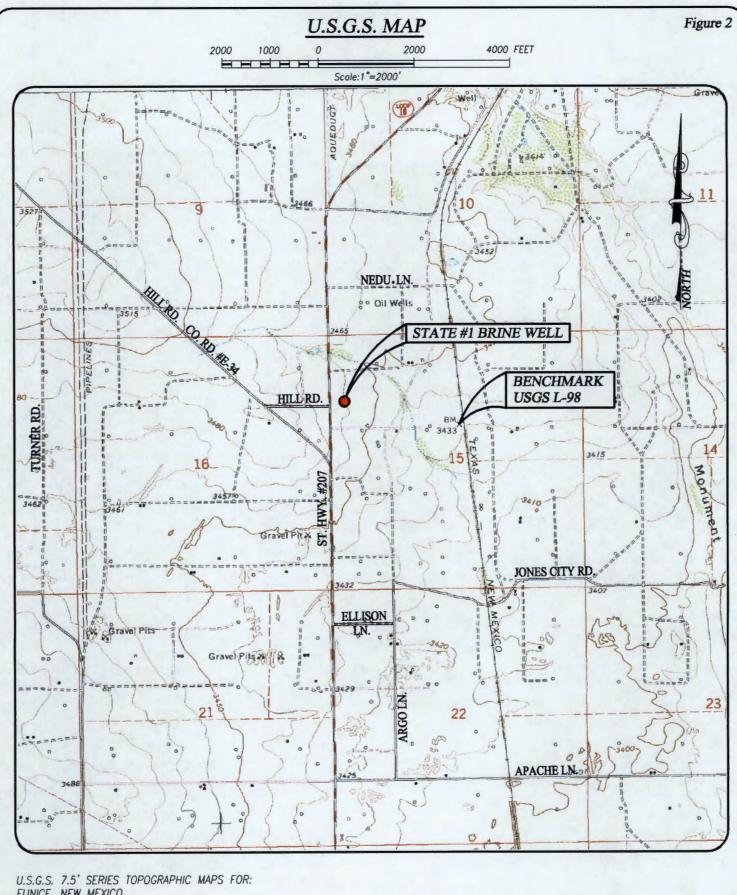


PROVIDING SURVEYING SERVICES
SINCE 1946

JOHN WEST SURVEYING COMPANY

412 N. DAL PASO HOBBS, N.M. 88240 (575) 393-3117

KEY ENERGY SERVICES, LLC



EUNICE, NEW MEXICO



PROVIDING SURVEYING SERVICES **SINCE 1946**

JOHN WEST SURVEYING COMPANY

412 N. DAL PASO HOBBS, N.M. 88240 (575) 393-3117

KEY ENERGY SERVICES, LLC

LOCATION MAP

000 500 0 1000 2000 FEET



BEARINGS SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983. DISTANCES ARE SURFACE VALUES.

DENOTES FOUND CORNER AS NOTED

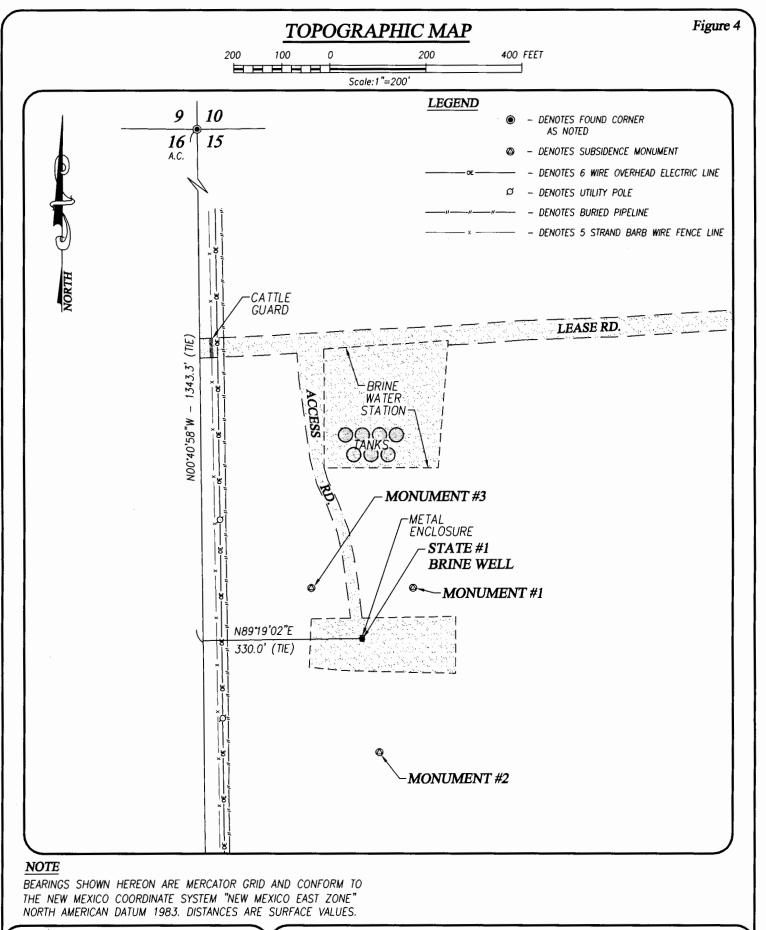


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412 N. DAL PASO HOBBS, N.M. 88240 (575) 393-3117

KEY ENERGY SERVICES, LLC



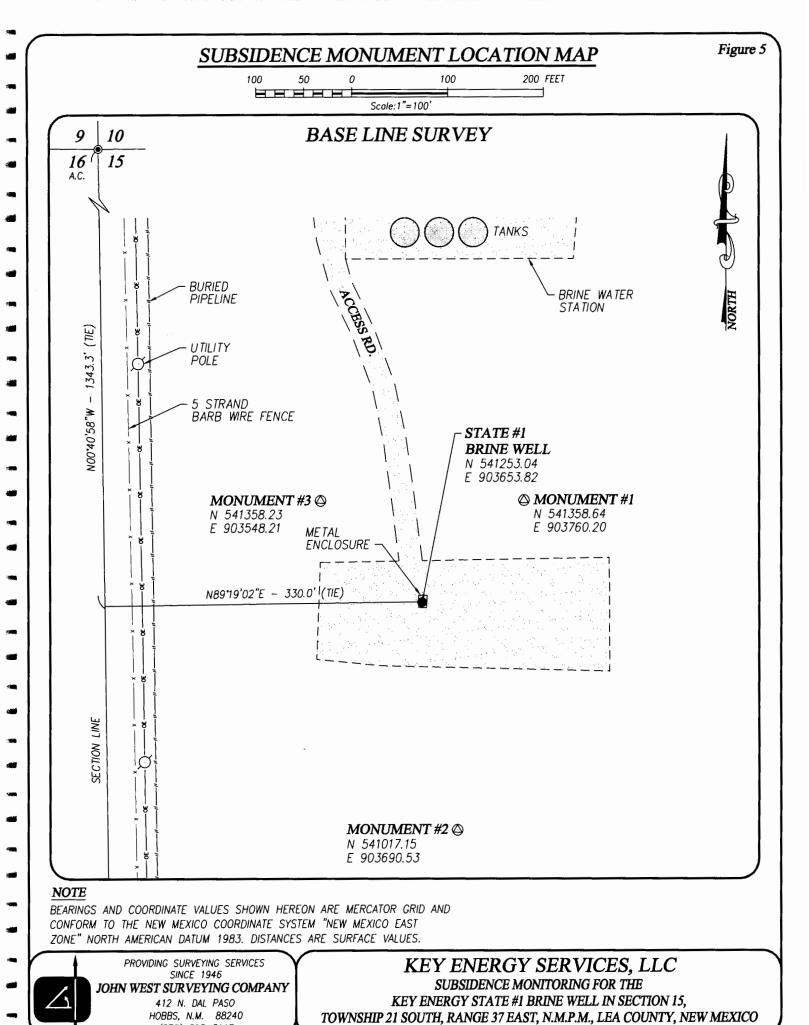


PROVIDING SURVEYING SERVICES SINCE 1946

JOHN WEST SURVEYING COMPANY

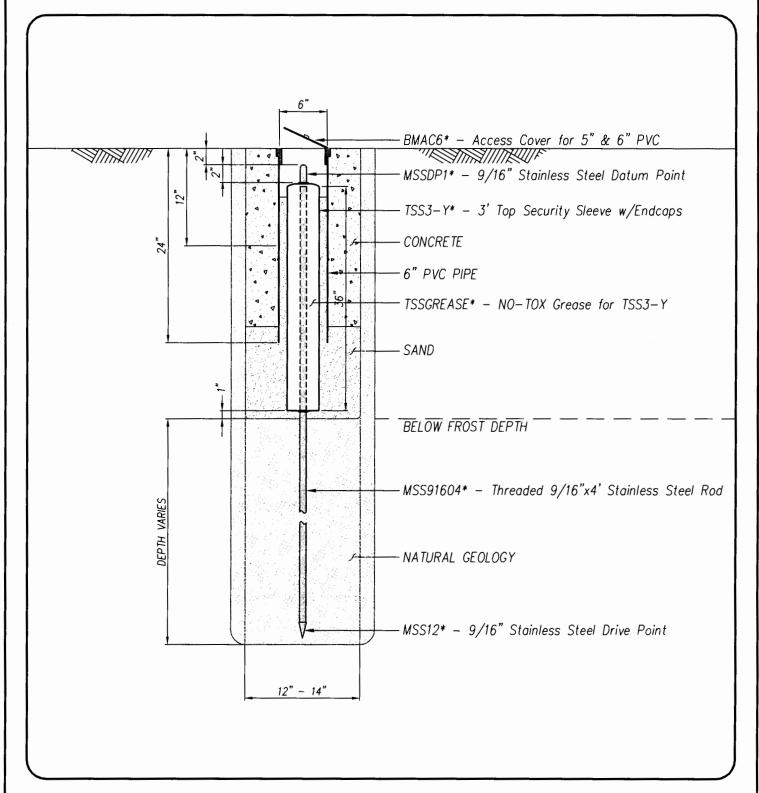
412 N. DAL PASO HOBBS, N.M. 88240 (575) 393–3117

KEY ENERGY SERVICES, LLC



(575) 393-3117

BERNTSEN MONUMENT INSTALLATION DETAIL NOT TO SCALE



*REFERENCE: www.berntsen.com

9/16" STAINLESS STEEL TOP SECURITY SLEEVE MONUMENT



PROVIDING SURVEYING SERVICES SINCE 1946

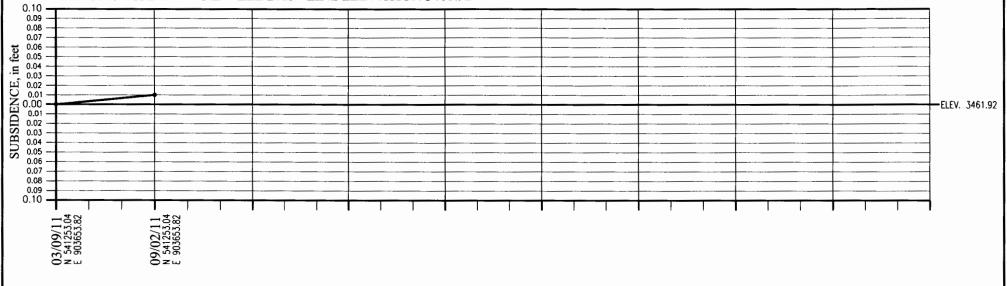
JOHN WEST SURVEYING COMPANY

412 N. DAL PASO HOBBS, N.M. 88240 (575) 393-3117

KEY ENERGY SERVICES, LLC

VERTICAL SUBSIDENCE TABLE





SUBSIDENCE MONUMENT #1 BASE LINE ELEVATION 3457.93

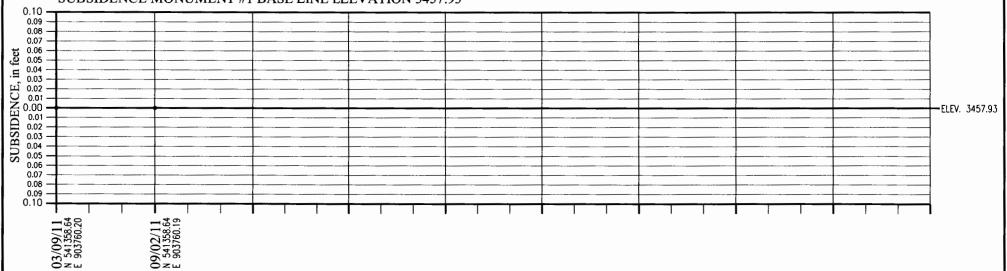


Figure 7A



PROVIDING SURVEYING SERVICES SINCE 1946

JOHN WEST SURVEYING COMPANY

412 N. DAL PASO HOBBS, N.M. 88240 (575) 393–3117

NOTE:

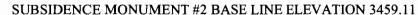
HORIZONTAL ACCURACY OF EQUIPMENT PER MANUFACTURER ±0.02 FT. VERTICAL ACCURACY OF EQUIPMENT PER MANUFACTURER ±0.01 FT.

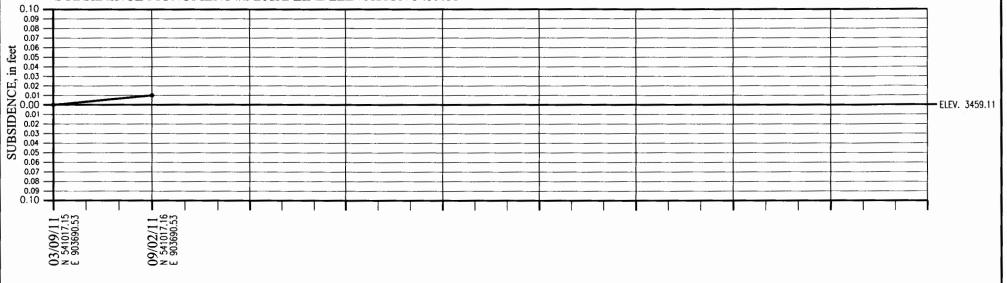
KEY ENERGY SERVICES, LLC

SUBSIDENCE MONITORING FOR THE
KEY ENERGY STATE #1 BRINE WELL IN SECTION 15,
TOWNSHIP 21 SOUTH, RANGE 37 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO

DonnoS\Tracts\Subsidence Monitoring\Key Energy Services, LLC\11111996 State #1\11111996.dwg 01/20/12

VERTICAL SUBSIDENCE TABLE





SUBSIDENCE MONUMENT #3 BASE LINE ELEVATION 3460.49

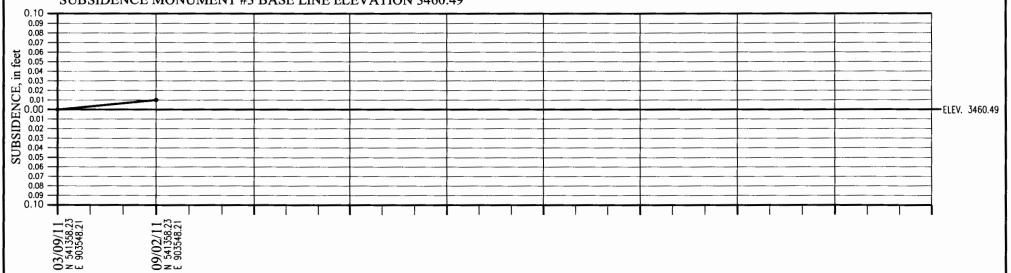


Figure 7B



PROVIDING SURVEYING SERVICES SINCE 1946

JOHN WEST SURVEYING COMPANY
412 N. DAL PASO

HOBBS, N.M. 88240 (575) 393-3117

NOTE:

HORIZONTAL ACCURACY OF EQUIPMENT PER MANUFACTURER ±0.02 FT. VERTICAL ACCURACY OF EQUIPMENT PER MANUFACTURER ±0.01 FT.

KEY ENERGY SERVICES, LLC

SUBSIDENCE MONITORING FOR THE KEY ENERGY BW-19 CARLSBAD No. 1 WELL IN SECTION 36, TOWNSHIP 22 SOUTH, RANGE 26 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO

APPENDIX F

AREA OF REVIEW

- Well Status List Spreadsheet- 1 page
- AOR Plot Plan- 1 page
- 2011 AOR Check Off List- 9 pages
- Critical AOR Wells last OCD file record-4 pages
- Two Additional Wells investigated near the Critical AOR-13 pages

2011 BW-28 AOR Review-- Well Status List up-dated Dec 23, 2011

	API#	Well Name	UL	Section	75	Rg	Footage	Within 1/4 mi AOR * within 660 ft		Casing Program Checked	Cased/Comented across salt section	Corrective Action Required
1	30-025-33547	Key-State no.001		15	21s	37e	1340 FNL & 330 FW	L NA		NA	*	
1		Apache NEDU 604	-	15	215	37e	2310 FNL & 990 FWL			no	check again 2012 report	check again 2012 report
	30-025-06591								. :			no
	30-025-09913	Shell NEDU 603	E	15	218	37e	3390 FSL & 4520 FEL		1 1	yes	yes	
	30-025-09914	Apache NEDU 602	E	15	21s	37e	1980 FNL 8, 660 FWL		1 1	yes	yes	no
	30-025-35271	Apache NEDU 602625	8	15	21s	37e	2580 FNL & 1300 FWL			138	na	na
	30-025-37223**	Apache NEDU 628	E	15	21s	37e	1410 FNL & 380 FWL	Not Drilled	0 0	na	na	na
	30-025-06609	Chevron St. 002	C	15	21s	37e	660 FNL & 1980 FWL			na	ne	na
	30-025-06611	Chevron St. 004	C	15	21s	37a	660 FNL & 2080 FWL	no		na	na	na
	30-025-06613	Apache NEDU 605	C	15	21s	37e	760 FNL & 1980 FWL	no		na	ne	na
	30-025-34649	Apache NEDU 622	C	15	216	37e	1229 FNL & 2498 FWL	no		ne	na	na
	30-025-34886	Apache NEDU 524	C	15	21s	37e	160 FNL & 1350 FWL	no		na	na	na
31	0-025-39831(added 2010)	Chevron State S no. 2	C	15	215	37e	990 FNL & 1330 FWL	yes	1	no	check again 2012 report	check again 2012 report
34			C	15	215	37e	1250 FNL & 1368 FWL		1	no	check again 2012 report	check again 2012 report
	30-025-34887	Apache NEDU 624	C	15	218	3/6	1230 FML & 1308 FWL	yes	-	no no	Check again 2012 report	Check again 2012 report
	30-025-06586	Chevron St. 001	D	15	21s	37e	660 FNL & 660 FWL	yes*	1 1	yes	yes	no
	30-025-06612	Chevron St. 005	D	15	21s	37e	660 FNL & 990 FWL	yes	1	yes	yes	no
	30-025-06614	Apache NEDU 601	D	15	21s	37e	600 FNL & 990 FWL	yes	1	yes	yes	no
	30-025-36809	Apache NEDU 526	D	15	21s	37e	130 FNL & 330 FWL	yes	1	no	check again 2012 report	check again 2012 report
	30-025-06565	Apache St. 002	F	15	21s	37e	1980 FNL & 1980 FWL	. no		na	ne	na
	30-025-06587	Apache NEDU 606	F	15	21s	37e	3375 FSL & 3225 FEL			na	ne	na
	30-025-06590	Apache NEDU 608	F	15	21s	37e	1980 FNL & 1880 FWL			na	na	ne
	30-025-06603	Apache Argo 006	K	15	21s	37e	1650 FSL & 2310 FWL	no		ne	na	na
-	0-025-06607(added 2010)	Apache Argo 011	-	15	215	37e	2080 FSL & 1650 FWL			ne	De	na
3				15		37e	1980 FSL & 1980 FWI			na	ne	na
	30-025-09918	Apache NEDU 703	K		218							
	30-025-39828	Apache Argo 14	K	15	218	37e	2190 FSL & 2130 FWL			na	na	กล
	30-025-34657	Apache NEDU 623	K	15	21\$	37e	2540 FSL & 2482 FWL	. no		na	ne	na -
	30-025-06606	Apache Argo 010	L	15	218	37e	1880 FSL & 760 FWL	no		ne	ne	na
	30-025-09915	Apache Argo 007	L	15	218	37e	2310 FSL & 990 FWL	no		na	ne	na
	30-025-09916	Apache NEDU 701	L	15	21s	37e	1980 FSL & 660 FWL	no		na	na	na
	30-025-34888	Apache NEDU 713	i	15	218	37e	1330 FSL & 1142 FWI	no		ne	ne	na
	30-025-37238	Apache NEDU 629	i	15	215	37e	2630 FSL & 330 FWL		1	no	check again 2012 report	check again 2012 report
	30-025-06623	Apache WBDU 057	A	16	21s	37e	660 FNL & 660 FEL	yes	1	no	check again 2012 report	check again 2012 report
	30-025-06023	Chevron HLNCT 006	-	16	215	37e	330 FNL & 600 FEL	no		no	na	na na
			*	16	215	37e	1290 FINL & 330 FEL		1 1	yes	yes	no
	30-025-39277	Apache WBDU 113	^	16	215	378	1290 FML & 330 FEL	yes*	1 1	yes	yes	no no
	30-025-06621	Apache WBDU 056	н	16	21s	37e	1980 FNL & 660 FEL	yes	1	no	check again 2012 report	check again 2012 report
	30-025-06624	Chevron HLNCT 005	н	16	218	37e	2310 FML & 330 FEL	yes	1	no	check again 2012 report	check again 2012 report
	30-025-36741	Chevron HLNCT 007	H	16	21s	37e	1330 FNL & 1070 FEL	. no		ne	na	ne
	30-025-37834	Chevron HLNCT 008	H	16	218	37e	2310 FNL & 030 FEL	yes	1	no	check again 2012 report	check again 2012 report
	30-025-06617	Apache St. DA 005	1	16	21s	37e	1980 FSL & 330 FEL	no		na	ne	na
	30-025-06619	Apache WBDU078	1	16	21s	37e	1980 FSL & 660 FEL	no		na	na	ne
	30-025-37916	Apache St. DA 013	,	16	215	37e	1650 FSL & 780 FEL	no		DØ.	DB .	na
	30-023-37710	repende on un 013		10	270	37.6	2000 FOL OF FOL	110				

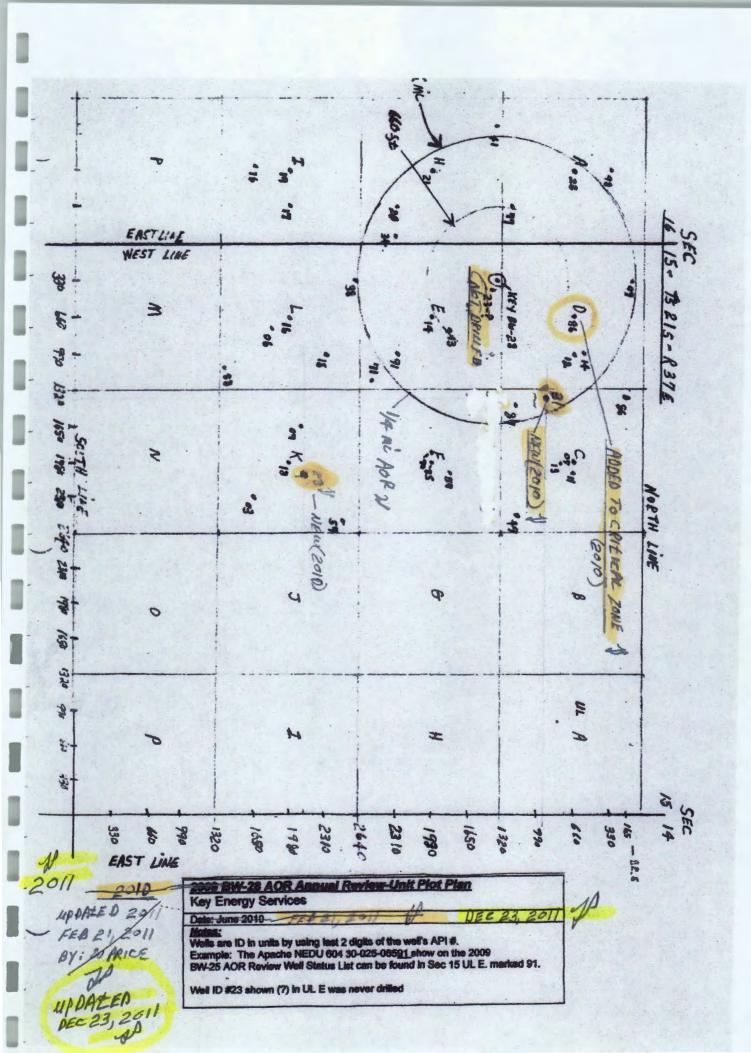
4 15

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 annually.

Mark 30-025-37223 not drilled



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.

DEC 2011

7 Records Found

7 Records Found

Displaying Screen 1 of 1

Displaying Screen 1 of 1

Go Back

	API Number	ULSTR	Footages	,
\circ	3002506609	C -15-21S-37E	660 FNL & 1980 FWL	\mathcal{U}
	Well Name & Number: STA	TE S No. 002		
	Operator: CHEVRON U S	A INC		
\circ	3002506611	C -15-21S-37E	660 FNL & 2080 FWL	u
	Well Name & Number: STA	TE S No. 004		
	Operator: CHEVRON U S			
(⁻ 1	3002506613	C -15-21S-37E	760 FNL & 1980 FWL	u
_	Well Name & Number: NOR	THEAST DRINKARD UNI	T No. 605	
	Operator: APACHE CORP			
$\overline{}$	3002534649	C -15-21S-37E	1229 FNL & 2498 FWL	1/
-	Well Name & Number: NOR			
	Operator: APACHE CORP	ì		
\bigcirc	3002534886	C -15-21S-37E	160 FNL & 1350 FWL	
\sim	Well Name & Number: NOR			
	Operator: APACHE CORP			
<u> </u>	3002534887	C -15-21S-37F	1250 FNL & 1368 FWL	
_	Well Name & Number: NOR			
	Operator: APACHE CORP		. , , , , , , , , , , , , , , , , , , ,	, /
/=\	3002539831	C .15.219.37E	990 FNL & 1330 FWL	
أميدا	Well Name & Number: STA		SEU FINE OLISSU FVVE	
	Operator: CHEVRON U S	A INC		

Continue

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.

DEC 2011

5 Records Found

Displaying Screen 1 of 1

_	API Number	ULSTR	Footages	. /
• 0	3002506603	K -15-21S-37E	1650 FSL & 2310 FWL	
	Well Name & Number: ARG	GO No. 006		
-	Operator: APACHE CORP			
ੈ ਂ	3002506607	K -15-21S-37E	2080 FSL & 1650 FWL	u
•	Well Name & Number: ARG	O No. 011		
	Operator: APACHE CORP			
	3002509918	K -15-21S-37E	1980 FSL & 1980 FWL	u
_	Well Name & Number: NOF	RTHEAST DRINKARD UNI	IT No. 703	
•	Operator: APACHE CORP	•		
	3002534657	K -15-21S-37E	2540 FSL & 2482 FWL	u
	Well Name & Number: NOF	RTHEAST DRINKARD UNI	IT No. 623	
ė	Operator: APACHE CORP	•		
\cap	3002539828	K -15-21S-37E	2190 FSL & 2130 FWL	ν
• ~	Well Name & Number: ARG	O No. 014		
	Operator: APACHE CORP			

5 Records Found

Displaying Screen 1 of 1

Continue Go Back

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.

DEC 2011

3 Records Found

Displaying Screen 1 of 1

ø		API Number	ULSTR	Foot	ages		
•	\bigcirc	3002506623	A -16-21S-37E	660	FNL	& 660	F
		Well Name & Numb	er WEST BLINERRY DRINKARD	LINIT	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 USA 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

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.

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5 Records Found

5 Records Found

Displaying Screen 1 of 1

Displaying Screen 1 of 1

Go Back

	API Number	ULSTR	Footages	. /
• 0	3002506606	L -15-21S-37E	1880 FSL & 760 FWL	
	Well Name & Number: ARG	O No. 010		
	Operator: APACHE CORP			
	3002509915	L -15-21S-37E	2310 FSL & 990 FWL	
	Well Name & Number: ARG	60 No. 007		
•	Operator: APACHE CORP			,
	3002509916	L -15-21S-37E	1980 FSL & 660 FWL	
`	Well Name & Number: NOF			
	Operator: APACHE CORP			
	3002534888	L -15-21S-37E	1330 FSL & 1142 FWL	
·	Well Name & Number: NOF	RTHEAST DRINKARD UNI	IT No. 713	
<u>ن</u>	Operator: APACHE CORP			. /
\bigcirc	3002537238	L -15-21S-37E	2630 FSL & 330 FWL .	
• ~	Well Name & Number: NOF	RTHEAST DRINKARD UNI	IT No. 629	
	Operator: APACHE CORP			
_				

Continue

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.

DÉZ 2011

3 Records Found

Displaying Screen 1 of 1

•		API Number	ULSTR	Footages	
. (\supset	3002506585	F -15-21S-37E	1980 FNL & 1980 FWL	•
_		Well Name & Number: CiTii	ES S STATE No. 002		
		Operator: APACHE CORP		. /	
• (\supset	3002506587	F -15-21S-37E	3375 FSL & 3225 FEL	
Í		Well Name & Number: NOR			
9		Operator: APACHE CORP			,
. (7)	3002506590	F -15-21S-37E	1980 FNL & 1880 FWL	
	-	Well Name & Number: NOR			
9		Operator: APACHE CORP			

3 Records Found

Displaying Screen 1 of 1

Continue Go Back

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.

Dée 2011

4 Records Found

Displaying Screen 1 of 1

-	API Number	ULSIR	rootages	,
• 0	3002506586	D -15-21S-37E	660 FNL & 660 FWL //	
	Well Name & Number: STA	ATE S No. 001		
	Operator: CHEVRON U S	A INC		/
• o	3002506612	D -15-21S-37E	660 FNL & 990 FWL 🗸	
•	Well Name & Number: STA	ATE S No. 005		
a	Operator: CHEVRON U S	A INC		
	3002506614	D -15-21S-37E	600 FNL & 990 FWL	•
	Well Name & Number: NO	RTHEAST DRINKARD UN	IT No. 601	
4	Operator: APACHE CORF			
• 0	3002536809	D -15-21S-37E	130 FNL & 330 FWL V	
•	Well Name & Number: NO	RTHEAST DRINKARD UN	IT No. 526	
	Operator: APACHE CORE			

4 Records Found

Displaying Screen 1 of 1

Continue Go Back

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.

DEC 2011

6 Records Found

Displaying Screen 1 of 1

		API Number	ULSTR	Footages
***	\bigcirc	3002506591	E -15-21S-37E	2310 FNL & 990 FWL V
سند		Well Name & Number: NO	RTHEAST DRINKARD UN	
		Operator: APACHE CORP		
~	\bigcirc	3002509913	E -15-21S-37E	3390 FSL & 4520 FEL /
		Well Name & Number: NO	RTHEAST DRINKARD UN	IT No. 603
100		Operator: SHELL WESTE	RN E & P INC	. /
	\bigcirc	3002509914	E -15-21S-37E	1980 FNL & 660 FWL
	-	Well Name & Number: NO	RTHEAST DRINKARD UN	IT No. 602
		Operator: APACHE CORF		
	\bigcirc	3002533547	E -15-21S-37E	1340 FNL & 330 FWL
-	٠_٠	Well Name & Number: STA	TE No. 001	
		Operator: KEY ENERGY		
_	(-)	3002535271	E -15-21S-37E	2580 FNL & 1300 FWL
		Well Name & Number: NO	RTHEAST DRINKARD UN	IT No. 625
		Operator: APACHE CORP		
-	\cap	3002537223	E -15-21S-37E	1410 FNL & 380 FWL
العندة	_	Well Name & Number: NO	RTHEAST DRINKARD UN	
		Operator: APACHE CORF		
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Go Back

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.

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3 Records Found

Displaying Screen 1 of 1

		API Number	ULSTR	Footages	,	
)	\bigcirc	3002506617	I -16-21S-37E	1980 FSL & 330 F	EL "	
		Well Name & Number: STA	TE DA No. 005			
		Operator: APACHE CORP				
1	\circ	3002506619	I -16-21S-37E	1980 FSL & 660 F	EL L	_
		Well Name & Number: WES	ST BLINEBRY DRINKARD			
		Operator: APACHE CORP				
	\bigcirc	3002537916	I -16-21S-37E	1650 FSL & 780 F	EL /	
	-	Well Name & Number: STA	TE DA No. 013			
•		Operator: APACHE CORP				

3 Records Found

Displaying Screen 1 of 1

Continue Go Back

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.

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4 Records Found

Displaying Screen 1 of 1

		API Number	ULSIK	rootages		/
-	\bigcirc	3002506621	H -16-21S-37E	1980 FN	NL & 660	FEL V
-		Well Name & Number: WES	ST BLINEBRY DRINKARD	UNIT No	0. 056	
		Operator: APACHE CORP				
.498	0	3002506624	H -16-21S-37E	2310 FN	NL & 330	FEL 🗸
100		Well Name & Number: HAR	RRY LEONARD NCT E No	005		
-200		Operator: CHEVRON U S	A INC			, ,
41	\bigcirc	3002536741	H -16-21S-37E	1330 FN	NL & 1070	FEL /
	-	Well Name & Number: HAR	RRY LEONARD NCT E No	007		
1038		Operator: CHEVRON U S	A INC			
-	()	3002537834	H -16-21S-37E	2310 FN	NL & 1030	FEL //
-44		Well Name & Number: HAR				
		Operator: CHEVRON U S	A INC			
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- Fau	ule Mr	- Sur	the		Approved by:	0	that SA	. NEO E	SY	
Prissed Home:		7			Title:		(4)E3	OREF. S		
Pamels M. Leighton										
Regulatory	Analyst									
Ome:		713-296-71	20			25	21	1990		
7	el escabe (B in C	713-298-71								
1 200 0 1 20000										
	Provinces Operator	Sharm			Printed Name			180		Deta

a j		!				
**	•) -		14		
•	Balonit 3 Copies to Appropriate Disease Office	State of New Me Energy, Minerals and Natural Re		Form C-100 Borbed Li-40		
300	DESTRUCT F.O. Box 1900, Holder, 104 81240	OIL CONSERVATIO		WELL AH NO.	= D2112	
	P.O. Dumer DD., Artesia, 164 88210	Santa Pe, New Mexico		5. Indicate Type of Lease	5-09213	
	HATTRICT MI 1000 N.O Breston Rd., Auton, NM 87410			6. Sato Oil & Gos Lasso I	FATE PRE .	
*	(DO NOT USE THIS FORM FOR PI DIFFERENT MES (FORM)	TICES AND REPORTS ON WELL ROPOBALS TO DRILL OR TO DEEPEN ERVOIR, USE "APPLICATION FOR PET 0-101) FOR BUCH PROPOBALS.)	LS OR PLUG BACK TO A BMT*	7. Lanc House or Usit Ag NORTHEAST DRINKA		
	L Type of Welt:				Ì	
•	2. Name of Operator Shell Western EAP Inc.			t. Well No. 603		
#	3. Address of Openior P.O. Box 576 Houston, I	X 77001-0676 (WCK 52	37)	1. Pool same or Wildest N. EUNICE BLINEBRY	-DRINKARD-TUBB	
	4. Well Lection Usit Letter E : S	390 Feet Prom The SOUTH	Lies sai	4520 Pest From The		
***	Seatles 15	Township 218 Ra	37E	NAME LEA	County	
5		10. Elevation (Show whether 2445' GR	07, 1873, 107, GR, etc.)			
		Appropriate Box to Indicate I		sport, or Other Data SEQUENT REPO	ET OF.	
*	PERFORM REMEDIAL WORK	PLUG AND ABANDON	REMEDIAL WORK		MG CASSIG 🗍	
	TEMPORARILY ABANDON	CHANGE PLANS	COMMENCE DRILLING	=	MD ARAMODINASA DINA	
	PULL OR ALTER CASING		CASING TEST AND CE	MENT JOB		
•	OTHER:		OTHER:			
,	12. Describe Proposed or Completed Op- work) SEE BULE 1103.	outloss (Clearly state all participal details, or	d give pertinent dates, inclu	بناميد إد بشك ليفسنند يبط	on property	
	11-13 TO 11-22-93:					
, ,	200 SX CLS C NEAT. STUNG	POF CEP # 6898". SET CICR 6 I' CMT. STUNG OUT OF CICR. E 2 LK STW 4894" - 4968". SET OUT OF CICR. LEFT 128" CMT SHOT # 2878". SET CICR # 28 400 SX CLS C CMT, UNABLE TO	CICR @ 4841'. 802 ON TOP OF CICR. (TO CBG LK W/ TOC @ 4715'.)		
	LEFT 63' CMT ON TOP OF CK 860'. PERF # 800'. SET CH STUNG OUT OF CICR. CMT TO MARKER 3' BELOW GL W/6' WELL IS PBA'D.	400 SX CLS C CMT, UMABLE TO TH. CIRC CLM. WOC S HRS. R CR @ 750'. CIRC CLS C CMT TO D SURF IN 5-1/2 PROD CSG. CL ABY GL. BACKFELL PIT & CELL	UN TEMP SURVEY & D SURF BTW 6-1/2 JT OFF 6-1/2 IN, W AR. CUT OFF DEAD	Found toc @ X 8-5/8 Ann. 'Ellhead. WLD 4 In Man Below Gl.	L.	
	WELL IS PEAU.					
	I have such that the information should be	we and complete to the last of my terrologie and		SSET ADMIN	1/07/94	
		Windes	TECH, MGR A		m <u>1/07/84</u> muche no. 713/544-3797	
,	Mount	Windes		14.		
	Moses	Windes	TECH, MGR A	14.	жисие но. 713/544-3797	

Submit 3 Copies To Appropriate District Office State of New Mexico	Form C-103			
District I 1625 N French Dr., Hobbs, N	WELL API NO.			
Destrict!	30-025-065860 5. Indicate Type of Lease			
District III A 70031220 South St. Francis Dr.	STATE FEE			
DESIGNATIVE AND ASSESSED ASSES	6. State Oil & Gas Lease No.			
SUNDRY NOTICES AND REPORTS ON WELLS	7. Lease Name or Unit Agreement Name			
(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	STATE S			
PROPOSALS) 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	10. Pool name or Wildcat			
15 SMITH ROAD, MIDLAND, TEXAS 79705	PENROSE SKELLY GRAYBURG			
4. Well Location	WEST No.			
Unit Letter D: 660 feet from the NORTH line and 660 feet from the W 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			
	SEQUENT REPORT OF:			
PERFORM REMEDIAL WORK PLUG AND ABANDON REMEDIAL WOR TEMPORARILY ABANDON CHANGE PLANS COMMENCE DR	IK			
PULL OR ALTER CASING MULTIPLE COMPL CASING/CEMEN				
DOWNHOLE COMMINGLE				
OTHER: ACIDE	ZE & SCALE SQUEEZE			
 Describe proposed or completed operations. (Clearly state all pertinent details, an of starting any proposed work). SEE RULE 1103. For Multiple Completions: A or recompletion. 				
07-30-08: MIRU. 07-31-08: REL TAC. TIH W/WS TO 4527. DID NOT TAG FILL. SI ACID TO FILL TBG. WELL ON VAC. ACIDIZE PERPS W/105 BBLS ACID. ALL PER 08-06-08: PKR WOULD NOT SET. COLLAR ABOVE PKR IS SPLIT. TIH W/NEW COPKR. TIH W/PKR TO 3672 & SET. PMP 105 BBLS SCALE INHIB. 08-07-08: REL P 08-08-08: RUN PMP & RODS. RIG DOWN. FINAL REPORT	NFS OPN VAC. SWAB. 08-05-08; SWAB. DLLAR. TAG FISH @ 3905. SET PKR. REL			
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	ge and belief.			
$A \cdot \bigcirc \cdot \cdot$				
SIGNATURE SIGNATURE SPECIATORY SP	ALIST DATE 08-11-2008			
Type or print name DENISE PINKERTON E-mail address: leakeid@chevror	AUG 1 R 2000			
APPROVED BY: Line William TITLE TO STATE CONDITION OF Approval (if any):				
Committees or experience (it may):				

ì

State of New Mexico
Minerals & Natural Resources
1943 M. Francis Dr., Robbs, NM #TECEPTON
Minerals & Natural Resources
Minerals & Natural Resources
Minerals & Natural Resources
Dissistant
Light & Grand Avenue, Anneals, India (1972)

5 Of Consequention Division
Dissistant Resources
Senta Fe, NM 87505
Senta Fe, NM 87505 Submit to Appropriate District Office 5 Copies Santa Fe, NM 87505

REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT

Operator same and Address
Appels Copporator
10 GRID Number
173
Reason for Filing Code/ Effective Date
Tules, CK 1420

API Number

Pod Name

Pod Name ☐ AMENDED REPORT r Filing Code/ Effective Date / 10/07/2009 * Post Code 22900 * Well Number 113 S Lee Code Dredschap Matched Con Commercian Date 1077/2009 10/07/2009 ¹³ C-129 Permit Number ¹⁴ C-129 Effective Date ¹⁷ C-129 Expiration Date III. Of and Gas Transporters

"Transporter
OGRID * O/G/W Targa Midstream Services LP 1000 Louisianam Suita 4700 Houston, TX 77262 the constant Pleins Marketing, LP PO Box 4648 Houston, TX 77210 214984 0 1V. Well Completion Data

21 Spart Date 22 Ready Date 09/15/2009 10/07/2009 24 PSTD 6853* 27 Depth Set Sacks Cement ²⁸ Casing & Tubing Size 12-1/4* 8-5/8* 1342 650 sx, circ 8912 7-7/8* 5-1/2" 1000 ax, circ V. Well Test Date

31 Date New Oil
10/07/2009 10/07/2009 H Test Length 24 hours ⁴⁸ Gas 268 * Oil * Water 61 at I hereby certify that the rules of the Oil Conservation Division hav been compiled with and that the information given above is true and complete to the best fit my bearwholes and belief. Signature:

Printed name: PETROLBUM ENGINERA Printed name: Amber Cooke Title: Production Engineering Tech Trite:
Production Engineering
Email Address:
amber.cooke@apachecorp.com
Phone:
918.491.4988 NDV 8 6 2000 Oate: 10/22/2009

Submit 3 copies to Appropriate Submit 5 Coffice St	State of New I gy, Minerals and Natural R			Form C-103 Revised 1-1-89
DISTRICT I	CONSERVATION	ON DIVISION	WELL API NO.	
P.O. Box 1980, Hobbs, NM 88240	P.O. Box 208		30 025 06612	
DISTRICT II	Santa Fe, New Mexic	-	5. Indicate Type of Lease	
P.O. Box Drawer DD, Artesia, NM 88210 DISTRICT III			STATE	FEE 🗌
1000 Rio Brazos Rd., Aztec, NM 87410			6. State Oil / Gas Leass No. 8-9188	
SUNDRY NOTICES A	ND REPORTS ON WEL			
(DO NOT USE THIS FORM FOR PROPOSALS DIFFERENT RESERVOIR. (FORM C-101) FO			7. Lease Name or Unit Agreement STATE S	Name
1. Type of Well: OIL GAS WELL WELL	OTHER		8. Well No.	
2. Name of Operator TEXACO EXPLORATION	ION & PRODUCTION INC		5. Well No. 5	
3. Address of Operator P.O. BOX 730, HOBB	S, NM 88240		9. Pool Name or Wildost Penrose Skelly Grayb	urg
4. Well Location Unit Letter :660	Feet From TheNOR1	TH Line and 990	Feet From The WEST	ine
			IPM LEA CO	
	rvetion (Show whether DF, Ri		FM LEA OU	
		3439 NB	Las Other Date	
Спеск Арргория	ate Box to Indicate Na			NE.
NOTICE OF INTENTION TO:	_		JBSEQUENT REPORT C	лг. —
PERFORM REMEDIAL WORK	ND ABANDON	REMEDIAL WORK	ALTERING CASING RATION PLUG AND ABANDO	NMENT
TEMPORARILY ABANDON CHANGE	PLANS [COMMENCE DRILLING OPE		NMENT L
PULL OR ALTER CASING OTHER:	П	CASING TEST AND CEMEN	Recompletion	×
Objective: Abandon Drinkard, Complete Penrose SI 1) Set 5 1/2" CIBP w/35' cernent cap - New PBTD= 2) Perf 5 1/2" casing w/8 SPF 3841-51' (80 holes) 3) Acidize perfs w/1550 gal 15% NEFE 4) Ran 2 3/8" tubing w/5 1/2" packer set @ 3781' 5) 04/06/94: Flow 1 oil, 108 wtr, 626 MCF, 23/64" c	6395			
TYPE OR PRINT NAME (This space for State Use)	TITLE Engir	neering Assistant AL SIGNED BY JERRY DISTRICT I SUPERIVISO	SEXTON ADD 4	97-0426
APPROVED BY	,TITLE	Material South Miso	UAIL NIN	J .55.

DeSoto/Nichole 12-93 ver 1.0

<u> DisTRICT I</u> P.O. Box 1980, Hobbs, NM 88241-1980

DISTRICT IV

State of New Mexico Energy, Minerals and Natural Resources Department

Form C-104 Revised February 10,1994 Instructions on back

P.O. Box Drawer DD, Artesia, NM 88211-0719 OIL CONSERVATION DIVISION Submit to Appropriate District Office P.O. Box 2088 5 Copies 1000 Rio Brazos Rd., Aztec, NM 87410 Santa Fe, New Mexico 87504-2088 ☐ AMENDED REPORT P.O. Box 2088, Santa Fe, NM 87504-2088 REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT Operator Name and Address OGRID Number 022351 **TEXACO EXPLORATION & PRODUCTION INC** Reason for Filing Code P.O. BOX 730, HOBBS, NM 88240 RC ⁴ API Number Pool Name **Pool Code** 30 025 06612 Penrose Skelly Grayburg 50350 ⁷ Property Code Property Name Well No. 011110 STATE S Surface Location Feet From The Ul or lot no. Section Township Lot.idn North/South Line East/West Line Range Feet From The County 37E 660 **WEST** LEA D 215 NORTH 990 11 Bottom Hole Location Feet From The Feet From The Ut or lot no. Section Township Range Lot.ldn North/South Line East/West Line County ¹³ Producing Method Code | ¹⁴ Gas Connection Date 15 C-129 Permit Number 16 C-129 Effective Date 17 C-129 Expiration Date Lse Code 3/15/94 Oil and Gas Transporters 18 Transporter OGRID 20 POD 18 Transporter Name 22 POD ULSTR Location 21 O/G and Address and Description 2471910 0 C 15 21S 37E TEX-NM PIPELINE CO 022628 PO BOX 2528, HOBBS, NM 88240 TEXACO E & P INC 2471930 G D 15 21S 37E 022345 PO BOX 3000, TULSA, OK 74102 JV. **Produced Water** 23 POD **POD ULSTR Location and Description** C 15 21S 37E 2471950 **Well Completion Data** 26 Ready Date 27 Total Depth 28 PBTD 25 Spud Date **Perforations** 3/18/94 8148 3841-51 31 CASING & TUBING SIZE 32 DEPTH SET 30 HOLE SIZE 33 SACKS CEMENT 13 3/8" 284' 300 17 1/2" 8 5/8" 2074 11" 2000 6 3/4" 6 1/2" 8147 600

VI. Well Test Data

3/18/94	03/17/94	04/07/94	24 HR	38 Tubing Pressure 210	³⁸ Casing Pressure O
40 Choke Size 41 23/64	Oil - Bble.	⁴² Water - Bbls. 108	⁴³ Gas - MCF 626	44 AOF	⁴⁶ Test Method F

I hereby certify that the rules and regulations of the Oil Conservation

OIL CONSERVATION DIVISION

Division have been complied with and that the in is true and complete to the best of my knowledge Signature Printed Name Larry W. Johnson Title Engineering Assistant Date 4/8/94	•	Approved By: ORIGINAL SIGNED BY JERRY SEXTON DISTRICT I SUPERVISOR Approval Date: APR 13 1994
47 If this is a change of operator fill in the OGRID of Previous Operator Signat	number and name of the previous operator	Title Date

£

C DeSoto/Nichola 12/63 ver 1.10

2A Prinkane

di

Submat to Appropriate

State of New Mexico

DeSoloMohole 12-83 ver 1.8

tate Leave 6 copies	Er	ergy, Minerals and Natural	Resources	Department			Reviser	1-1-89
er Lease - 5 copies DISTRICT I	OI	L CONSERVAT	ON DI	IVICIONI I			11011301	11-1-03
P.O. Box 1980, Hobbs, N	iM 88240			101014	WELL API NO.	20 005 000	••	
DISTRICT II		P.O. Box 20		2000	5. Indicate Type	30 025 066	12	
O Box Drawer DD, Art	esia, NM 88210	Santa Fe, New Mexi	CO 01304	-2000	5. sidicate Type		TE 🔯	FEE 🗌
DISTRICT III					6. State Oil / Gas	Lesse No.		
000 Rio Brazos Rd., Az		T TO DOUL DEEDEN OD	DI 110 010		V-40	*	B-9188	
		IT TO DRILL, DEEPEN, OR			7. Lease Name		ant Name	20,20000000
	RILL RE-ENTER	DEEPEN L	PLUG BAC	^ LESI JLTIPLE □	STATE S	nı Our Ağı se n	IOTIL TABILITY	
b. Type of Well: OIL 🔀 GAS	П	ZONE		WE	O.A.L.O			
WELL WELL	OTHER							
2. Name of Operator	TEXACO EXPLORA	ATION & PRODUCTION INC			8. Well No.	5		
3 Address of Operator					9. Pool Name oc		J	
4 Mall Location	P.O. BOX 730, HOE	3BS, NM 88240			SKEL	LYPENROSE	GRAYBURG	
4. Well Location	r D :660	Feet From TheNO	RTH line	and 990	Feet From The	WEST	Line	
					_		A_COUNTY	
Section	1 0 Tow	nship <u>215</u>	Range3	7ENM	rm		COUNTY	ar recipies
	10.	Proposed Depth 6395		1. Formation			tary or C.T.	
3. Elevations (Show wheth	er DE RT GR etc.)	14. Kind and Status Plug Bond		GRAYBURG 15. Drilling Contract	or	16 Approx. D	ate Work will st	ert
3459' KB	,,,,	-		-		3/10/94		
17.		PROPOSED CASING	AND CEN	MENT PROGRA	M			
SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETT	ING DEPTH	SACKS OF C	EMENT	EST. TO	,
17 1/2"	13 3/8"	36#	294'		300	C	IRC	
11"	8 5/8"	24#	2974		2000	C	IRC	
6 3/4"	5 1/2"	15.5 & 17#	8147		500	2	570"	
		& 110,000 lbs 16/30 sand.			EFF. DATI	_	4-44 25-D	261
IN ABOVE SPACE ZONE ONE BLOWOUT PRE	EVENTER PROGRAM, IF ANY.	D PROGRAM: #PROPOSAL IS 1 It of my impulsions and bates. TITLE PRO			PRESENT PRODUCTIVI	E ZONE AND PROP		TIME
TYPE OR PRINT NAME	Dan A.	Dunham				Telephone No		5
1 0 10 20 20 20 20 20 20 20 20 20 20 20 20 20	Dan A.	Dunham		NED BY JERRY	SEXTON	-		5
TYPE OR PRINT NAME (Thus spece for State Use) APPROVED BY	Dan A.	Dunham	INAL SIGI			-		5

Santa Fe, New Mexico

NOTICE OF INTENTION TO DRILL Notice must be given to the Oil Conservation Commission or its proper agent and approval intering Secret drilling begins. If changes in the proposed plan are considered advisable, a copy of this notice allowing 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. January 31, 1951 Houston, Texas l'lece Dete 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 State "S" Well No. 5 in NW/4 NW/4 Tide Water Associated Oil Company Company or Operator T. 21-S Field, Lea 37 -E Brunson 15 .. N. M., P. M., of Sec. The well is 660 feet (S.) of the N line and 990 (E.) sweet of the W line of Section 15, 21S, 37E (Give location from section or other legal subdivision lines. Cross out wrong If state land the oil and gas lease is No. B-9188 Assignment No. If patented land the owner is If government land the permittee is... Tide Water Associated Oil Company The lessee is Box 1404, Houston 1, Texas ARBA 640 ACRES We propose to drill well with drilling equipment as follows: Rotary LOCATE WELL CORRECTLY The status of a bond for this well in conformance with Rule 39 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: New or Second Hand Landed or Bise of Size of Weight Per Foot Depth Cemented 300 280 Cemen ted 17 1/2* 13 3/8" 36# New 28001 Comen ted 2000 11" 8 5/8ª 24# and 38# New 500 6 3/4* New 78001 Cemented 5 1/8" 17# 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 7600 Additional information: Sincerely yours, Approved... except as follows: Tide Water Associated Oil Company Cgfupany or Operator eda J. B. Hollowy Authorized Employee Position OIL CONSERVATION COMMISSION, Send communications regarding well to J. E. Springer, c/o Tide Water Assoc. Name Oil Company, Midland, Texas Address

Submit 3 Copies To Appropriate District Office	State of New		Form C-103 May 27, 2004
District 1 1625 N French Dr., Hobbs, NM 88240	Energy, Minerals and	Natural Resources	WELL API NO.
District III District III District III	OIL CONSERVA	TION DIVISION	30-025-06614
District III	1220 South St		5. Indicate Type of Lease STATE S FEE STATE
1000 Rio Brazos Rd , Aztec, NM 87407	2 4 ZUII Santa Fe, N	1	6. State Oil & Gas Lease No.
1220 S St Francis Dr , Santa Fe, NM	,		BD-9188
87505 SUNDRY NO	REPORTS ON W	/ELLS	7. Lease Name or Unit Agreement Name
(DO NOT USE THIS FORM FOR PROPOSE DIFFERENT RESERVOIR. USE "APPLICE"	SALS TO DRILL OR TO DEEPEN	OR PLUG BACK TO A	Northeast Drinkard Unit
PROPOSALS)	ATION FOR PERMIT (FORM C	/ POR SUCH	8. Well Number
	Gas Well Other /	/	601
 Name of Operator Apache Corp 	paration /		9. OGRID Number
3. Address of Operator	•		10. Pool name or Wildcat
303 Veterans Airpark Lane, S	te. 3000, Midland, TX 7970	05	Eunice, Blinebry-Tubb-Drinkard, N.
4. Well Location			
		line and 990 feet fro	
Section 15 Townsh	ip 21S Range 11. Elevation (Show whether	37E NMPM	County Lea
		459' GR	
Pit or Below-grade Tank Application O	Closure		
Pit typeDepth to Groundw	nterDistance from nearest f	fresh water well Distance	from nearest surface water_NA
Pit Liner Thickness: mil	Below-Grade Tank: Volume	bbis; Constru	ction Material
12. Check A	Appropriate Box to Indic	ate Nature of Notice, I	Report or Other Data
NOTICE OF IN	ITENTION TO:	SUE	SSEQUENT REPORT OF:
PERFORM REMEDIAL WORK	PLUG AND ABANDON [REMEDIAL WOR	
TEMPORARILY ABANDON	CHANGE PLANS	COMMENCE DR	ILLING OPNS. P AND A
PULL OR ALTER CASING	MULTIPLE COMPL [CASING/CEMEN	тјов 🗆
OTHER: drill out & add Plugs	. [OTHER:	
Describe proposed or comp	leted operations. (Clearly sta	ate all pertinent details, and	give pertinent dates, including estimated date
as secompletion		Multiple Completions: Att	ach wellbore diagram of proposed completion
10/10/11 Tag TOC @ 5,620'	IBP	•	Approved for plugging of well bors only.
10/10/11 Tag TOC @ 5,620'			Liability under bond is retained pending receipt of C-103 (Subsequent Roport of Well Plugging)
10/11/11 Tbg @ 5,620' - Circ ho	le w/ MLF. Test csg - OK.	112	which may be found at OCD Web Page under Forms, www.cmnrd.state.nm.us.ocd.
Spot 50sx cmt @ 5,620	ie wimer. lest csg-uk.	to 5 (15.	
10/12/11 D	Th 4.0921 See	135-012 1/0 Ca,Cl	5
Perf @ 3,040' - unable	to Sqz. The @ 3,090' - Spe	et 25ex cmt - Tag @ 2,740	1, 7 hot 40 7 t Cher.
10/13/11 Tbg @ 2,246' - Spot 2	TIH open enco Soximi No tag	Act OCI) w	ark Whitaker
Tbg @ 1,306' - Spot 2	58x cm/ No tag	Per sed aga	in
Tbg @ 400' - Spot 25:	x cint - Tag @ 200'		H, ounchors, clean
Peri @ 100' - Circ Su	x cmt to surface, KDMO.	. UUTUTT W	A, DENEMONS, CLEAR
(vcation.	Install dry b	nole marke	r ·
I handy postify that the information	above is two and complete to	s the best of my knowledge	and ballof I further could that any alter balance
			and belief. I further certify that any pit or below- or an (attached) alternative OCD-approved plan
SIGNATURE 3	TITLE P	A Technician (Ba	sic Energy Services) DATE <u>10-18-11</u>
Type or print name: Greg Bryant	E-mail address:		Telephone No. 432-563-3355
For State Use Only			_
APPROVED BY	TIT	LE STATE ME	DATE 0-25-2011
Conditions of Approval (if any):			
10			DATE 0-25-2011 OCT 2 5 201

Office	State of New Mexico		Form C-103
District I	Energy, Minerals and Natural R	esources	May 27, 200 WELL API NO.
1625 N. French Dr., Hobbs, NM 88240 District II			30-025-06614
1301 W. Grand Ave., Artesia, NM 88210	OIL CONSERVATION DIV		5. Indicate Type of Lease
District III 1000 Rio Brazos Rd., Aztec, NM 87410	1220 South St. Francis		STATE X FEE
District IV 1220 S. St. Prancis Dr., Santa Fe, NM	Santa Fe, NM 87505		6. State Oil & Gas Lease No.
87505		·	
(DO NOT USE THIS FORM FOR PROPOS DIFFERENT RESERVOIR. USE "APPLIC	CES AND REPORTS ON WELLS ALS TO DRILL OR TO DEEPEN OR PLUG BA ATION FOR PERMIT" (FORM C-101) FOR SU		7. Lease Name or Unit Agreement Name Northeast Drinkard Unit
PROPOSALS.) 1. Type of Well: Oil Well	Gas Well Other		8. Well Number 601
2. Name of Operator			9. OGRID Number 00873
Apache Corp			
3. Address of Operator 6120 Sout	h Yale, Suite 1500 74136-4224		10. Pool name or Wildcat
4. Well Location	74150-4224		Eunice Blinebry - Tubb - Drinkard - Nort
	feet from the South	line and 990	0feet from theWestline
Section 15	Township 21S Range		NMPM CountyLea
	11. Elevation (Show whether DR, RKI	RT, GR, etc.	
Pit or Below-grade Tank Application or	3459' GR		
		rall Dies	ance from nearest surface water
Pit typeDepth to Groundware Pit Liner Thickness: mil	Below-Grade Tank: Volume		enstruction Material
12. Check A	ppropriate Box to Indicate Natur	e of Notice,	Report or Other Data
NOTICE OF IN	TENTION TO:	SUB	SEQUENT REPORT OF:
PERFORM REMEDIAL WORK		MEDIAL WOR	
TEMPORARILY ABANDON			ILLING OPNS. P AND A
PULL OR ALTER CASING	MULTIPLE COMPL CA	SING/CEMEN	TJOB 🔯
OTHER:	□ OT	HER:	
13. Describe proposed or comp	eted operations. (Clearly state all pertir	ent details, and	d give pertinent dates, including estimated da
of starting any proposed wo	eted operations. (Clearly state all pertir rk). SEE RULE 1103. For Multiple Co	ent details, and impletions: At	d give pertinent dates, including estimated datach wellbore diagram of proposed completion
of starting any proposed we or recompletion.	rk). SEE RULE 1103. For Multiple Co	mpletions: At	tach wellbore diagram of proposed completic
of starting any proposed we or recompletion. Isolate 5-1/2" casing leak, 4942' - 4 Pulled out of retainer. Set cmt retain	rk). SEE RULE 1103. For Multiple Co 974'. TOC @ 5380' per CBL. Perf 5360 ler @ 4880'. Squeeze casing leak with 3	mpletions: At ', set retainer 6 50 sxs Class C.	tach wellbore diagram of proposed completion of 5007'. Squeeze with 125 sx Class C. Set packer @ 5322'. Test squeeze to 500
of starting any proposed we or recompletion. Isolate 5-1/2" casing leak, 4942' - 4 Pulled out of retainer. Set cmt retain psi. Did not hold. Test backside to 2	rk). SEE RULE 1103. For Multiple Co 974'. TOC @ 5380' per CBL. Perf 5360 per @ 4880'. Squeeze casing leak with 3 100 psi, held ok. Set retainer @ 5320' an	mpletions: At ', set retainer (50 sxs Class C. d squeeze with	tach wellbore diagram of proposed completion of 5007'. Squeeze with 125 sx Class C. Set packer @ 5322'. Test squeeze to 500 to 50 sx Class C w/ CaCl + 150 sx Class C
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111.		·						<u>-</u>		
¹⁶ Transporter OGRID		¹⁰ Transporter Name and Address			* P00	21 O/G		22 POD ULSTR and Decription		
037480	EOTT End P O Box 4	ergy Pipeline Li	P	·	2264710	٥		2, T21S-R37 entral Batter	E	
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	of operator fill in the	OGRID number and na		ous operator		-				
	Previous Operator 5	Ngnature:	-		Printed Name			Tille		Date
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OIL CONSERVATION COMMISSION Santa Fe, New Mexico

REQUEST FOR (OIL)-(GAS) ALLOWABLE

It is necessary that this form be submitted by the operator before an initial allowable will be assigned to any completed oil or gas well. Form C-100 (Certificate of Compliance and Authorization to Transport Oil) will not be approved until Form C-104 is filed with the Commission. Form C-104 is to be submitted in triplicate to the office to which Form C-101 was sent. Two copies will be retained there and the other submitted to the Proration Office, Hobbs. New Mexico. The allowable will be assigned effective 7:00 a.m. on date of completion, provided completion report is filed during month of completion. The completion date shall be that date in the case of an oil well when oil is delivered into the stock tanks. Gas must be reported on 15.025 P.B. at 600 Februaheit.

		.025 P.B. at 60° February.
Bex 547, Hebbs, New M	ace	Key 1, 1952
WE ARE HEREBY REQUESTING	AN ALLOWABLE FOR A WELL	
Tide Water Associated Company or Opera	tor Lesse	hell No. 7 in 331 1/4 11/4
section 15 , T. 21-	R. 37-E N.M.P.M. B	Pool Lon County
Please indicate location	Elevation 1 24591 S	oudded 2 20 52 Completed 1 27 52
	Total Depth	P.B
*		t: Pump Flow 200 (SOPD ORGAN
;	Based on 160.95 Bbls. Of	
		gauge, proves suter rupl:
	Size of choke in inches	
	į	/8º Feet
		5 pelge Casing Packer set @ 7924
	Gas/Oil Ratio 1076	fravity 13.20 A.T.
this letter:	Acid Record:	Show of Oll.Gas and water
Casing V Cementing Recor		
Size Feet Sax	d 5000 Gals 7966 to	8/ 011
Size Feet	Galsto_	
13 3/6 293 500	Shooting Record.	<u>\$</u> /
	Ots to	2/
8 5/6 2990 1700		
	Qtsto	s/
5 1/2 8142! 350	Natural Production Test	t: N Flowing Flowing
(5g" hung in 8-5/8"	Test after acid or shot	Pumping 237 31 Flowing
eeg. 6 26471)		27/0/2
dease indicate below to	rmation Tops (in conformanc	ce with geographical section of state)
Southeas	tern New Mexico	Northwestern New Mexico
F. Anhy	T. Devonian	
F. Salt	T. Silurian	***
l Salt	T. Montoya	
I. Tates	T. Simpson 7369	
r. Queen	T. Ellenburger 77761	T. Menefee
l. Grayburg	T. Gr. Wash	T. Point Lookout
r. San Andres 39821	T. Granite	T. Mancos
I. Glorieta	Т.	T. Dakota
i. Drinkard	T	T. Morrison
T. Tubbs 61551	T. Connell 79031	T. Penn
T. Abo	T	
T. Penn	T	T.
T. Wiss	T. T.D. 4145	Y•

SIZE OF HOLE	SIZE OF CASING	WHERE 8	NO. BACKS OF CEMENT	METHODS	USED	MUD GR	AVITY	MOUNT OF MUD USED
174"	13-3/8	293	300	Hallibur	ton	Na ti r	•	
117	8-5/8	2990	2000			Nativ	6	
6-3/4	5/2	8142	350))		9.34/	jal.	
	(54	Liner	hung in 8-5/8	essing	2847)		
	•			PLUGS AND	ADAP	TERS		
Heaving	plugMs	terial					Depth Se	t
_								
Auapiers	- Macei			·····		MASS.		·
			RECORD OF	SHOOTING O	R CHE	MICAL TREA	TMENT	
SIZE	SHEL	L USED	EXPLOSIVE OR CHEMICAL USED	MAUP	TITY	DATE	DEPTH SHOT OR TREATED	DEPTH CLEANED OU
-			15% Regular A	dd 5000 i	als	4-26-52	7988 - 8056	
	_					(perf. i	1 50" liner)	
				İ		1		
		•		le natural	produ	ection before	ore acid tree	atment, well
			icai treatment				*************************	
ITOMB	1 2)6 B	N.D TOTT	Owing treature	15.				·-···
table to tut to p the proc mulsion	ols were uroducingiuction of	4-27 the first 2% wa	feet 4 hours was 23 ter; and	PRODUC , 19 52 % sediment.	CTION DATTELS Gravit Gallons	et, and from of fluid of which,	fee	t to
oon pic		per oq. 1	•	EMPLO				
******	₽ . ₫.	Griffi	n	Driller			R. Robbins	, Drill
	В. п.	Gaston		Driller				Drill
	······································							, pit
				TON RECORI				
-			_		a com	olete and corre	ct record of the w	ell and all work done
t so far	as can be	determined	from available rec	ords.				
Subscribe	ed and swo	rn to befo	re me this 9	•••••	t	ox 547 -	Hobbs, Her.	iexico 5-16-52
lay of	201	ay,	<u></u>	1952	Name	H.A. R.	Hobbs, Herr	l_2_Shackel_ford
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***************************************	U.F.	1,0)2	Notary	Public				
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ay Comn	nission exp	ıres	- , ,,,,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Addr	955 	عربيوان مايهد	i, lien decico

NEW MEXICO OIL CONSERVATION CC MISSION

MISCELLANEOUS REPORTS ON WELLS

Submit this report in triplicate to the Oil Conservation Commission District Office within ten days after the work specified is completed. It should be signed and filed as a report on beginning drilling operations, results of shooting well, results of test of casing shut off, result of plugging of well, and other important operations, even though the work was witnessed by an agent of the Commission. See additional instructions in the Rules and Regulations of the Commission.

	Indicate na	ture of repo	ort by checking bel	low.		
REPORT ON BEGINNING DR OPERATIONS	ILLING	e e	REPORT ON	REPAIRIN	G WELL	
EPORT ON RESULT OF SHO CHEMICAL TREATMENT				PULLING IG CASING	OR OTHERWIS	BE .
EPORT ON RESULT OF TES	T OF CASING	x	REPORT ON	DEEPENI	G WELL	
EPORT ON RESULT OF PLU	GGING OF WELL					
	March 4, 19	52	Box 547.	lobbs, l	les Mexico Pi	Los
ollowing is a report on the wor	k done and the resul	ts obtained t	under the heading r	oted above a	at theTidek	ster
Associated Oil Company of	Operator	State	nga Tesse	Well N	7	in the
N1/4 of N4/4		5	220220	R	37- §	, N. M. P. M.,
	Pool		Lea			County.
ne dates of this work were as f	ollows:	februar	y 29, 1952			
8-5/8" casing is 1 30 min.	" casing at 29 60° from surf	ice. Car	sing tested a	nd held	1000 psi fo	r
itnessed by	Name Tide	Water A	company	Co.	Head. Ro	as tabout
	Name	Water A	Company I hereby swear of is true and correct	r affirm tha		Title
PPROVED:	Name		I hereby swear o	r affirm tha	t the information	on given above
PPROVED:	Name N COMMISSION	•	I hereby swear of is true and correct Name Position	r affirm tha	t the information	on given above
PPROVED: OIL CONSERVATION	Name N COMMISSION Name Title	•	I hereby swear o	r affirm that. Dist	rict Fere	on given above Shackelforman

MISCELLANEOUS REPORTS ON WELLS

MISCELLANEOUS REPORTS ON WELLS

Triplicate to the Oil Conservation Commission District Office with the days after the work specific

	peginning drilling operations, results of shooting well, resupertant operations, even though the work was witness	ults of test seed by an
agent of the Commission. See additional instructions in Indicate nature of	the Rules and Regulations of the Commission.	- 194
REPORT ON BEGINNING DRILLING OPERATIONS	REPORT ON REPAIRING WELL	 _
REPORT ON RESULT OF SHOOTING OR CHEMICAL TREATMENT OF WELL	REPORT ON PULLING OR OTHERWISE ALTERING CASING	
REPORT ON RESULT OF TEST OF CASING SHUT-OFF	REPORT ON DEEPENING WELL	
REPORT ON RESULT OF PLUGGING OF WELL		
April 23, 1952	Bex 547, Hobbs, New Mexico	
Following is a report on the work done and the results obta	ined under the hearling notes above at the	
Company or Operator	Lease	
W/4 of NW/4 of Sec. 15	, T	N. M. P. M.,
Brunson Pool Les		County.
	RK DONE AND RESULTS OBTAINED	
We set 5½" liner at \$142' w/350 hung in \$-5/8" easing at 2847'. Top Liner tested and held 1000# for 30 m	sks regular count. 51" liner was of coment behind 52" liner is 5400".	stabout
We set 5½" liner at \$142' w/350 hung in \$-5/8" easing at 2447'. Top Liner tested and held 1000# for 30 m	sks regular count. 51" liner was of coment behind 52" liner is 5400". in.	
We set 5½" liner at \$142' w/350 hung in \$-5/8" easing at 2847'. Top Liner tested and held 1000# for 30 m	sks regular covert. 51 liner was of coment behind 52 liner is 5400 line. Associated Cil Company Head Rou Company True I hereby swear or affirm that the information gives true and correct.	ven above
We set 5½" liner at £142' w/350 hung in \$-5/8" easing at 2447'. Top Liner tested and held 1000# for 30 m Witnessed by Ra Wa Hogus Name APPROVED:	Associated Cil Company Head Rou I hereby swear or affirm that the information gi is true and correct. Name Afficiency H.P. Shae	ven above
We set 5½" liner at \$142' w/350 hung in \$-5/8" easing at 2847'. Top Liner tested and held 1000# for 30 m Witnessed by E. W. Hogue Name APPROVED: OIL CONSERVATION COMMISSION	Associated Cil Company Head Rou Company True I hereby swear or affirm that the information gl is true and correct. Name H. P. Shae	ven above

FORM C-105

	LOC	AR	EA 64 WEL	IO AC	RES RRE	OTLY	

NEW MEXICO OIL CONSERVATION COMMISSION Santa Fe, New Mexico

WELL RECORD

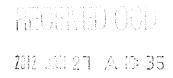
Mail to Oil Conservation Commission, Santa Fe, New Mexico, or its proper agent not more than twenty days after completion of well. Follow instructions in the Eules and Regulations of the Commission. Indicate questionable data by following it with (?). SUBMIT IN TRIPLICATE. FORM C-110 WILL NOT BE APPROVED UNTIL FORM C-106 IS PROPERLY FILLED OUT.

	tate "S"	Company or O		* 7	/www.	ef NW/4 of S	15	8.6	21-8	
37-	-B Leas	•	Brune	oza. /			Lea			
						t west of the Es				county.
Vell is	10	et south of the	ne North B	line and - 91.88	led	nment No	ist line of			**********
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Govern	ment land t	he permittee	ts				Address	_ 7/61	**************************************	3 0,
he Less	ee is	2-20	- rasoeta	eed ull	Company		Address	X 1404	nouston,	L, Tex
rilling	commenced.		•	19.1	Drill	ing was complet	æd	47-64		5 2
ame of	drilling con	tractor		7. ADE	Er, Hie.		Address	TULBA,	Oklahona	*
evation	above sea l	evel at top of	casing	2427	feet.					
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Key Energy Services 6 Desta Drive Suite 4300 Midland, Texas 79705

Telephone: 432.620.0300 Facsimile: 432.571.7173 www.keyenergy.com



January 26, 2012

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

Re:

Annual Class III Well Report for the State S. Brine Station

Permit BW-028

Dear Jim:

Enclosed you will find the 2011 Annual Class III Brine Well Report for the State S. Brine Station.

If you have any questions, please contact Dan Gibson at 432.571.7536.

Sincerely,

Robyn Miller, CLA and SWD Compliance Coordinator

Enclosure

cc:

Mr. Bob Fisher



ANNUAL CLASS III WELL REPORT FOR 2011

Key Energy Services, Inc.

State S Brine Station

Permit BW-028

API No. 30-025-33547

January 20, 2011

Submitted by: _

Daniel K. Gibson, P.G.

Corporate Environmental Director

Key Energy Services, Inc.

6 Desta Drive Suite 4300

Midland, Texas 79705

(432) 571-7536 ph

(432) 571-7173 fax

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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 2011 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, a C-103 is normally not required. However, Key Energy submitted a C-103, which has been included in the MIT Section IV-Appendix D.

General housekeeping was routinely performed and 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 E* shows drawings and data of recent installed subsidence survey markers).

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

Appendix A has a recent aerial photo of the site for reference.

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. Key is anticipating it may 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 2011 brine production volume was 222,286 bbls and the lifetime production volume is 3,989,782 bbls.

Enclosed in the tables section of the report is the injection and production table 1. and the 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* the latest chemical analysis and chain-of-custody of the brine and fresh water injection water samples collected October 19, 2011 and analyzed by Cardinal Laboratory in Hobbs, NM. 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.

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.

The specific gravity of the brine water was 1.13, which equates to 9.4 lb/gal. This is lower than the usual 10 lb/gal normally produced. This was attributed to the fact that during the test in September, most of the brine water was sold leaving only fresh water for the MIT "Open to Formation Test." This loaded the hole with a large amount of fresh water and the well had not recovered from this event.

To compensate for this, next years test may be ran using nitrogen.

Special Note: The laboratory misread the Chain-of-Custody and mislabeled the Eunice Brine Well as "GUINI" Brine Well.

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 2011, 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 annulus and producing brine up the tubing; to injecting fresh water down the tubing and producing brine up the annulus.

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 2011 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 2011 there was one reportable leaks or spills. A Bronco Services truck operator fell asleep while loading his truck and accidently released approximately

100 bbls of brine water, which ran off the loading pad just north of the pad and was contained on-site by the installed stormwater berms. 40 bbls were recovered and a C-141 was submitted to the OCD Hobbs office, with a copy to the Santa Fe office. Remediation corrective action is underway and when complete, a closure report will be submitted to both the Hobbs and Santa Fe offices for final approval. *Appendix C* contains a copy the initial C-141 spill report and photos showing remediation efforts.

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 cavem 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 workgroup, 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 "<u>upright cone"</u>. 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 3.98 million barrels of brine produced as of December 2011. The maximum diameter was calculated to be approximately 136 feet with a corresponding D/H ratio of .10 updated for the 2011 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 the first annual results are documented in *Appendix E.*

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 and AOR plot plan 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 ½ mile, casing program status, casing/cementing status, and corrective action required status.

In the 2011 review, there were no new wells added to the list. **Appendix F** contains the check-off list showing the OCD wells in all adjacent quarter sections surrounding the BW-28 brine well.

As in 2010, there are 39 wells located within these adjacent units. Within a 1/4 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. 136 ft (r = 68 ft) up-dated for 2011, 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.

All four wells located in the critical zone were reinvestigated by checking the OCD on-line well records. There was no well activity for any of these wells reported since the last 2010 review. *Appendix F* contains the last recorded file record for the four wells located in the critical AOR. They are identified as API# 30-025-914, 09913, 06586, and 39277.

This 2011 report includes the investigation of two more wells that are nearest the 660ft critical AOR and within the ¼ mile AOR that have not been investigated. These wells are identified as API # 30-025-06612 and 06614. Every year as the well bore grows additional wells may be added.

The Findings are as follows:

API # 30-025-06612: Chevron State #5, according to OCD records, is located 660 FNL & 990 FWL of UL D Section 15-Ts21s-R37e. It is shown to be located approximately 900 ft to the NE of the BW-28 well. This well was drilled in 1951 with surface casing set at 294 ft and cemented with 300 sacks circulated to surface. Intermediate casing was set at 2974 feet and cemented with 2000 sacks circulated to surface. A long string was ran and set at 8147 feet and cemented with 500 sacks with an estimated top at 2570 feet. There appears to be approximately 400 feet of cement above the bottom of the intermediate string.

It was recompleted as a gas well in the Grayburg at 3841-51 feet.

<u>Conclusions:</u> 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 # 30-025-06614: Apache NEDU 601, according to OCD records, is located 600 FNL & 990 FWL of Section 15-Ts21s-R37e. It is shown to be located approximately 950 ft to the NE of the BW-28 well. This well was drilled in 1952 with surface casing set at 293 feet bgl and cemented with 300 sacks. Intermediate casing was set at 2990 feet and cemented with 2000 sacks. A long string was ran and set at 8142 feet and cemented with 350 sacks. The well was plugged and abandoned in October of 2011.

<u>Conclusions:</u> 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.

The well records, for the two afore mentioned wells, is included in Appendix F.

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

Senior Vice President – Fluids Management Services

TABLES

	T40	15 4 2044 B		l Danad Dda	TABLE 1				folian an
Year	Month	Reported Monthly Brine Production (bbls)	Quarterly Brine Production (bbis)	Annual Brine Production (bbis)	Reported Monthly Freshwater Injection (bbls)	Quarterly Freshwater Injection (bbls)	Annual Freshwater Injection (bbls)	Comments	Operator
1996	October	10,588			10,588				Goldstar SWD
	November December	17,770 32,223		60,581	17,743 33,004		61,335		
1997	January	20,194	00/302	00,502	20,445	02/000	02/000	estimate (1)	
	February	20,194	CO 500		20,445	64 225		estimate (1)	
	March April	20,194 48,226	60,582	1	20,445 47,714			estimate (1)	
	May	38,000			36,571				
	June July	47,970 24,711	134,196		42,264 24,271	126,549		<u> </u>	
	August	31,817			31,559				
	September	38,120	94,648		38,697	94,527			
	October November	27,462 26,618			25,512 26,261				
	December	16,137	70,217	359,643	15,850	67,623	350,034		
1998	January	13,301			13,614				
	February March	47,212 42,337	102,850		49,552 44,964	108,130			
	April	27,072			27,519				
	May June	18,084 26,699			18,161 26,976				
	July	16,535	, 2,000	1	15,929				
	August	8,287	34,816		7,488 9,021				
	September October	9,994 13,312	34,818	1	17,302				
	November	9,822			9,873	ŀ			
1999	December January	8,287 4,026	31,421	240,942	9,497 4,607	36,672	249,896		
	February	6,867			8,138				
	March	5,641	16,534	ļ	6,030 7,338			<u> </u>	
	April May	7,873 34,100			32,461				
	June	20,708			20,171	59,970			
	July August	35,278 35,876			34,566 35,995				
	September	43,196			42,724				
	October	9,700 8,383		1	9,080				
	November December	28,662		240,310			240,928		
2000	January	65,492			65,028				
	February March	37,709 40,409			36,909 40,414			-	
	April	20,181		1	20,404				
	May June	52,092 41,371			50,373 37,776				
	July	33,860		1	31,757				
	August September	37,535 58,042			35,492 53,288				
	October	28,777		1	27,216				
	November	22,677		455.045	24,130		440 156		
2001	January	32,427		455,815	17,369 37,083		440,156		
	February	17,493]		23,076				
	March April	34,050 32,900		1	33,216 36,064				Change to Yale E. Key
	May	66,724			52,555				
	June July	37,607 16,399		-	42,347 15,588			 	
	August	10,173	1		33,664	}			
	September	16,185		4	16,200 24,147			<u> </u>	
	October November	25,184 10,447			8,666				
	December	21,061	56,692	320,650			341,339		
2002	January February	11,809 22,700			10,135 23,733				
	March	4,693	39,202	1	4,369	38,237			
	April May	15,160 16,321			16,776 17,283			 	
	June	13,938			15,276				
	July	8,301			10,688				
	August September	7,079 18,560			6,842 17,240			\vdash	
	October	7,040		1	7,823				
	November	9,788		147 055	10,950		160,782		
2003	December January	11,666 20,278		147,055	19,667 23,526		100,782		
	February	8,603]		5,310	3			
	March	37,680	66,561	L	35,548	64,384	L	L	

TABLE 1	-
TABLE 1 2011 BW-28 Annual Report Brine Well Production Volumes and Lifetime History Volumes	

TABLE 1 2011 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 Freshwater Injection (bbls)	Quarterly Freshwater Injection (bbls)	Annual Freshwater Injection (bbls)	Comments	Operator
	April May June July	31,782 17,767 10,733 27,104	60,282		31,619 13,305 9,260 13,927	54,184			
	August September October	9,555 7,945 12,014	44,604		7,197 5,056 10,394	26,180			
2004	November December January	26,100 38,748 7,980	76,862	248,309	12,438 18,218 8,539	41,050	185,798		
	February March April	8,130 8,220 29,898	24,330		8,797 8,894 31,931	26,230			
	May June July	14,233 28,716 1,840	72,847		15,428 30,410 2,060	77,769			
	August September October	29,898 20,277 24,436	52,015		30,201 20,266 23,784	52,527			
2005	November December January	21,925 32,225 17,873	78,586	227,778	22,430	79,844	236,370		
	February March April	23,929 37,896 29,882	79,698		24,958 40,435 31,794	84,553			
	May June July	39,575 22,766 7,593	92,223		42,385 23,995 7,640	98,174			
	August September October	31,573 47,305 38,571	86,471		29,316 48,230 51,232	85,186			
2006	November December January	31,533 36,430 18,480	106,534	364,926	27,670	115,314	383,227		
	February March April	33,250 39,492 40,194	91,222		35,511 38,630 43,605	94,118			
	May June July	51,009 22,374 38,208	113,577		54,630 24,832 37,613	123,067			
	August September October	35,627 48,784 50,375	122,619		36,201 47,312 51,232	121,126			
2007	November December January	26,084 8,224 31,540	84,683	412,101	27,670 10,202 33,320	89,104	427,415		
	February March April	24,313 40,514 34,095	96,367		25,260 38,412 35,120	96,992	:		Change to Key Energy Services
	May June July	19,308 9,170 30,857			23,130 11,009 28,468	69,259			
	August September October	12,394 25,970 7,882	69,221		18,884 23,360 7,643	70,712			
2008	November December January	2,476 3,933 1,706	14,291	242,452	1,982	14,801	251,764		
	February March April	5,845 21,386 25,787	28,937		6,203 21,673 22,704	29,858			
	June July	17,100 16,598 32,458	59,485		19,842 17,479 36,448	60,025			
	August September October	37,458 39,945 25,572	109,861		38,377 37,203 26,551	112,028			
2009	November December January	27,325 26,825 20,990	79,722	278,005	21,310	81,037	282,948		
	February March April	5,428	24,889		1,306 3,420 5,360	26,036			
	June July	1,343 630 1,546	7,401		1,762 1,232 1,673	8,354			
	August September	881 2,672			1,031 2,930				

TABLE 1 TABLE 1 2011 BW-28 Annual Report Brine Well Production Volumes and Lifetime History Volumes Reported Ouarterly Quarterly Annual Monthly Brine Annual Brine Monthly Brine Freshwater Freshwater Month Year Production Freshwater Comments Operator Production Injection Injection (bbis) Production Injection (bbls) (bbls) (bbls) (bbis) (bbls) 8,861 3,618 9,898 3,716 1,474 October November 15,088 52,477 14,514 54,538 2,035 December 0 1,650 4,092 5,092 12,256 2,099 5,068 10,270 11,281 7,575 20,304 2010 January 1,810 4,789 6,150 14,953 2,033 6,322 15,126 10,334 8,802 24,494 February 6,599 5,742 March April May 19,447 23,136 June July August 31,782 September 26,619 October November 36,765 44,126 24,388 19,421 18,356 44,153 52,975 29,666 December 64,644 116,452 77,449 138,966 2011 January February 23,284 105,925 87,935 March 22,365 11,754 18,902 20,961 17,273 April 9,828 15,661 17,503 14,401 May 43,845 53,021 June July August 5,430 37,334 16,000 54,234 September 11,359 18,585 8,284 19,662 27,806 October November December TOTAL VOLUMES 23,228 53,172 222,286 3,989,782 55,752 4,074,428

^{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 2011

MONTH	WATER IN	WATER OUT	PSI	RATIO OF WATER	IN-OUT
Jan-11	52,975	44,126	100	16.70%	***
Feb-11	29,666	24,388	100	17.79%	***
Mar-11	23,284	19,421	100	16.59%	***
Apr-11	22,365	18,356	100	17.93%	***
May-11	11,754	9,828	100	16.39%	***
Jun-11	18,902	15,661	100	17.15%	***
Jul-11	20,961	17,503	100	16.50%	***
Aug-11	17,273	14,401	100	16.63%	***
Sep-11	16,000	5,430	100	66.06%	***
Oct-11	8,284	11,359	100	-37.12%	***
Nov-11	19,662	18,585	100	5.48%	***
Dec-11	27,806	23,228	100	16.46%	***
TOTAL	268,932	222,286			

YEARLY RATIO % MONTHLY AVERAGE %

BRINE PRODUCTION BBLS 222,286 17.34% 15.44% FRESH WATER INJECTION BBLS 268,932

NOTES:

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.

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

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

APPENDICES

APPENDIX A PHOTOGRAPHS



APPENDIX B

Fresh and Brine Water LABORATORY REPORT

CHAIN OF CUSTODY



November 17, 2011

LESTER WAYNE PRICE, JR

PRICE LLC

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO, NM 87124

RE: GUINT BRINE WELL

EUNICE BRINE WELL AT

Enclosed are the results of analyses for samples received by the laboratory on 10/19/11 13:30.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021

Benzene, Toluene, Ethyl Benzene, and Total Xylenes

Method SW-846 8260

Benzene, Toluene, Ethyl Benzene, and Total Xylenes

Method TX 1005

Total Petroleum Hydorcarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2

Haloacetic Acids (HAA-5)

Method EPA 524.2

Total Trihalomethanes (TTHM)

Method EPA 524.4

Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

Celey D. Keine

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Reported:

17-Nov-11 11:10

Analytical Results For:

PRICE LLC

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO NM, 87124

Project: GUINI BRINE WELL

Project Number: NONE GIVEN

Project Manager: LESTER WAYNE PRICE, JR

Fax To: UNK-NOWN

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FRESHWATER	H102262-01	Water	19-Oct-11 10:50	19-Oct-11 13:30
BRINE WATER	H102262-02	Water	19-Oct-11 11:00	19-Oct-11 13:30

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Analytical Results For:

PRICE LLC

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO NM, 87124

Project: GUINI BRINE WELL

Project Number: NONE GIVEN

Project Manager: LESTER WAYNE PRICE, JR

Fax To: UNK-NOWN

Reported: 17-Nov-11 11:10

FRESHWATER H102262-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
•		Cardina	al Laborat	ories					
Total Metals by ICPMS									
Arsenic	0.0070	0.0005	mg/L	1	1111412	JM	02-Nov-11	200.8	GAL
Barium	0.0610	0.000500	mg/L	1	1111412	JМ	02-Nov-11	200.8	GAL
Cadmium	ND	0.00010	mg/L	1	1111412	JМ	02-Nov-11	200.8	GAL
Chromium	ND	0.001	mg/L	1	1111412	JМ	02-Nov-11	200.8	GAL
Cobalt	ND	0.00010	mg/L	1	1111412	JМ	02-Nov-11	200.8	GAL
Copper	0.0254	0.0001	mg/L	1	1111412	ЛМ	02-Nov-11	200.8	GAL
Lead	ND	0.0005	mg/L	1	1111412	JM	02-Nov-11	200.8	GAL
Manganese	ND	0.0050	mg/L	10	1111412	JM	11-Nov-11	200.8	GAL
Molybdenum	0.0033	0.0005	mg/L	1	1111412	JМ	02-Nov-11	200.8	GAL
Nickel	0.0014	0.0005	mg/L	1	1111412	JM	02-Nov-11	200.8	GAL
Sclenium	0.005	0.001	mg/L	1	1111412	JM	02-Nov-11	200.8	GAL
Silver	ND	0.00010	mg/L	1	1111412	JM	02-Nov-11	200.8	GAL
Uranium	0.00280	0.000100	mg/L	1	1111412	JМ	02-Nov-11	200.8	GAL
Zinc	ND	0.010	mg/L	10	1111412	JM	11-Nov-11	200.8	GAL
Mercury (Total) by CVAA									
Mercury	ND	0.0002	mg/L	1	1111411	JМ	27-Oct-11	245.1	GAL
Inorganic Compounds									
Alkalinity, Bicarbonate	229	5.00	mg/L	1	1102105	НМ	21-Oct-11	310.1M	
Alkalinity, Carbonate	ND	0.00	mg/L	1	1102105	НМ	21-Oct-11	310.1M	
Chloride	68.0	16.0	mg/L	4	1101905	НМ	21-Oct-11	4500-C1-B	
Conductivity	683	1.00	uS/cm	1	1102705	HM	20-Oct-11	120.1	
Cyanide (total)	ND	0.005	mg/L	1	1111413	CK	26-Oct-11	335.4	GAL
Fluoride	1.04	0.200	mg/L	1	1111414	CK	01-Nov-11	4500F C	GAL
pH	7.64	0.100	pH Units	1	1102705	НМ	20-Oct-11	150.1	
Specific Gravity @ 60° F	0.9934	0.000	[blank]	1	1110307	НМ	28-Oct-11	SM 2710F	
Sulfate	70.3	10.0	mg/L	1	1103102	НМ	28-Oct-11	375.4	
TDS	433	5.00	mg/L	1	1102603	нм	22-Oct-11	160.1	
Alkalinity, Total	188	4.00	mg/L	i	1102105	нм	21-Oct-11	310.1M	

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Reported:

17-Nov-11 11:10

Analytical Results For:

PRICE LLC

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO NM, 87124

Project: GUINI BRINE WELL

Project Number: NONE GIVEN

Project Manager: LESTER WAYNE PRICE, JR

Fax To: UNK-NOWN

FRESHWATER H102262-01 (Water)

_										
-	Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
-	Inorganic Compounds									
11.00	TSS	12.0	2.00	mg/L	1	1111105	НМ	25-Oct-11	160,2	
	TOTAL METALS BY ICP					,				
,,,,	Aluminum	ND	0.0500	mg/L	1	1111410	JM	26-Oct-11	200.7	GAL
	Boron	ND	0.300	mg/L	1	1111410	JM	26-Oct-11	200.7	GAL
_	Iron	0.079	0.060	mg/L	1	1111410	JM	26-Oct-11	200.7	GAL

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Celey D. Keine



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Reported:

17-Nov-11 11:10

Analytical Results For:

PRICE LLC

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO NM, 87124

Project: GUINI BRINE WELL

Project Number: NONE GIVEN

Project Manager: LESTER WAYNE PRICE, JR

Fax To: UNK-NOWN

BRINE WATER H102262-02 (Water)

Total Metals by ICPMS Arsenic Barium Cadmium Chromium Cobalt Copper Lead Manganese Molybdenum Nickel Selenium Silver Uranium Zinc		Cardina							
Arsenic Barlum Cadmium Chromium Cobalt Copper Lead Manganese Molybdenum Nickel Selenium Silver Uranium Zinc			il Laborat	ories					
Barium Cadmium Chromium Cobalt Copper Lead Manganese Molybdenum Nickel Selenium Silver Uranium Zinc									
Cadmium Chromium Cobalt Copper Lead Manganese Molybdenum Nickel Selenium Silver Uranium Zinc	ND	0.0500	mg/L	100	1111412	JM	02-Nov-11	200.8	GAL
Chromium Cobalt Copper Lead Manganese Molybdenum Nickel Selenium Silver Uranium Zinc	0.0575	0.0500	mg/L	100	1111412	JM	02-Nov-11	200.8	GAL
Cobalt Copper Lead Manganese Molybdenum Nickel Selenium Silver Uranium Zinc	ND	0.0100	mg/L	100	1111412	JМ	02-Nov-11	200.8	GAL
Copper Lead Manganese Molybdenum Nickel Selenium Silver Uranium Zinc	ND	0.100	mg/L	100	1111412	JМ	02-Nov-11	200.8	GAL
Lead Manganese Molybdenum Nickel Selenium Silver Uranium Zinc	ND	0.0100	mg/L	100	1111412	JМ	02-Nov-11	200.8	GAL
Manganese Molybdenum Nickel Selenium Silver Uranium Zinc	0.407	0.0100	mg/L	100	1111412	JM	02-Nov-11	200.8	GAL
Molybdenum Nickel Selenium Silver Uranium Zinc	ND	0.0500	mg/L	100	1111412	JM	02-Nov-11	200.8	GAL
Nickel Selenium Silver Uranium Zinc	0.421	0.0050	mg/L	10	1111412	JM	11-Nov-11	200.8	GAL
Selenium Silver Uranium Zinc	ND	0.0500	mg/L	100	1111412	JМ	02-Nov-11	200.8	GAL
Silver Uranium Zinc	ND	0.0500	mg/L	100	1111412	JM	02-Nov-11	200.8	GAL
Uranium Zinc	ND	0.100	mg/L	100	1111412	JМ	02-Nov-11	200.8	GAL
Zinc	ND	0.0100	mg/L	100	1111412	JM	02-Nov-11	200.8	GAL
	0.0294	0.0100	mg/L	100	1111412	JМ	02-Nov-11	200.8	GAL
Mercury (Total) by CVA A	ND	0.010	mg/L	10	1111412	JM	11-Nov-11	200.8	GAL
Mercury (Total) by CVAA									
Mercury	ND	0.0002	mg/L	1	1111411	JМ	27-Oct-11	245.1	GAL
Inorganic Compounds									
Alkalinity, Bicarbonate	181	5.00	mg/L	1	1102105	HM	21-Oct-11	310.1M	
Alkalinity, Carbonate	ND	0.00	mg/L	1	1102105	HM	21-Oct-11	310.1M	
Chloride	136000	16.0	mg/L	4	1101905	HM	21-Oct-11	4500-C1-B	
Conductivity	397000	1.00	uS/cm	1	1102705	HM	20-Oct-11	120.1	
Cyanide (total)	ND	0.005	mg/L	1	1111413	CK	26-Oct-11	335.4	GAL
Fluoride	1.04	0.200	mg/L	1	1111414	CK	01-Nov-11	4500F C	GAL
pH	6.80	0.100	pH Units	1	1102705	HM	20-Oct-11	150.1	
Specific Gravity @ 60° F	1.131	0.000	[blank]	1	1110307	HM	28-Oct-11	SM 2710F	
Sulfate	6160	10.0	mg/L	1	1103102	HM	28-Oct-11	375.4	
TDS	210000	5.00	mg/L	1	1102603	HM	22-Oct-11	160.1	
Alkalinity, Total	148	4.00	mg/L	1	1102105	НМ	21-Oct-11	310.1M	

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Reported:

17-Nov-11 11:10

Analytical Results For:

PRICE LLC

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO NM, 87124

Project: GUINI BRINE WELL

Project Number: NONE GIVEN

Project Manager: LESTER WAYNE PRICE, JR

Fax To: UNK-NOWN

BRINE WATER H102262-02 (Water)

•	Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
			Cardinal	Laborat	ories					
•	Inorganic Compounds									
_	TSS	96.0	2.00	mg/L	1	1111105	НМ	25-Oct-11	160.2	
•	TOTAL METALS BY ICP									
•	Aluminum	1.39	0.500	mg/L	10	1111410	JM	26-Oct-11	200.7	GAL
_	Boron	10.9	3.00	mg/L	10	1111410	JM	26-Oct-11	200.7	GAL
	Iron	ND	0.600	mg/L	10	1111410	JМ	26-Oct-11	200.7	GAL

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Analytical Results For:

PRICE LLC

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO NM, 87124

Project: GUINI BRINE WELL

Project Number: NONE GIVEN

Project Manager: LESTER WAYNE PRICE, JR

Fax To: UNK-NOWN

Reported: 17-Nov-11 11:10

SIER WATHE PRICE, JR

Total Metals by ICPMS - Quality Control

Cardinal Laboratories

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 1111412 - EPA 3005

Blank (1111412-BLK1)				Prepared: 01-Nov-11 Analyzed: 02-Nov-11	
Chromium	ND	0.001	mg/L		
Silver	ND	0.00010	mg/L		
Molybdenum	ND	0.0005	mg/L		
Lead	ND	0.0005	mg/L		
Barium	ND	0.000500	mg/L		
Cadmium	ND	0.00010	mg/L		
Zinc	0.018	0.001	mg/L		Bl
Cobalt	ND	0.00010	mg/L		
Copper	ND	0.0001	mg/L		
Manganese	0.0035	0.0005	mg/L		Bl
Uranium	ND	0.000100	mg/L		
Arsenic	ND	0.0005	mg/L		
Selenium	ND	0.001	mg/L		
Nickel	ND	0.0005	mg/L		

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Celey D. Keene, Lab Director/Quality Manager

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%REC

Analytical Results For:

PRICE LLC

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO NM, 87124

Project: GUINI BRINE WELL

Project Number: NONE GIVEN

Project Manager: LESTER WAYNE PRICE, JR

Fax To: UNK-NOWN

Reported: 17-Nov-11 11:10

RPD

Total Metals by ICPMS - Quality Control

Spike

Source

Cardinal Laboratories

Reporting

Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 1111412 - EPA 3005										
LCS (1111412-BS1)				Prepared: 0	1-Nov-11 A	Analyzed: 0	2-Nov-11			
Silver	0.0521	1	mg/L	0.0500		104	85-115			
Molybdenum	0.0542		mg/L	0.0500		108	85-115			
Zinc	0,059		mg/L	0.0500		118	85-115			BS1
Cobalt	0.0515	1	mg/L	0.0500		103	85-115			
Arsenic	0.0529		mg/L	0.0500		106	85-115			
Nickel	0,0504		mg/L	0.0500		101	85-115			
Uranium	0.0490		mg/L	0.0500		98.0	85-115			
Lead	0.0503		mg/L	0.0500		101	85-115			
Selenium	0.273		mg/L	0.250		109	85-115			
Copper	0.0502		mg/L	0.0500		100	85-115			
Chromium	0.049		mg/L	0.0500		98.6	85-115			
Manganese	0.0429		mg/L	0.0500		85.8	85-115			
Barium	0.0503		mg/L	0.0500		101	85-115			
Cadmium	0.0507		mg/L	0.0500		101	85-115			

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Analytical Results For:

PRICE LLC

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO NM, 87124

Project: GUINI BRINE WELL

Project Number: NONE GIVEN

Project Manager: LESTER WAYNE PRICE, JR

Fax To: UNK-NOWN

Reported:

17-Nov-11 11:10

Total Metals by ICPMS - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1111412 - EPA 3005										
LCS Dup (1111412-BSD1)				Prepared: 0	1-Nov-11	Analyzed: 0	2-Nov-11			
Uranium	0.0485		mg/L	0.0500	,	97.0	85-115	1.03	20	
Silver	0.0483		mg/L	0.0500		96.6	85-115	7.57	20	
Nickel	0.0493		mg/L	0.0500		98.6	85-115	2.21	20	
Lead	0.0498		mg/L	0.0500		99.6	85-115	0.999	20	
Chromium	0.049		mg/L	0.0500		98.2	85-115	0.407	20	
Barium	0.0492		mg/L	0.0500		98.4	85-115	2.21	20	
Selenium	0.256		mg/L	0.250		102	85-115	6.43	20	
Cobalt	0.0503		mg/L	0.0500		101	85-115	2.36	20	
Zinc	0.065		mg/L	0.0500		130	85-115	9.52	20	BS
Molybdenum	0.0523		mg/L	0.0500		105	85-115	3.57	20	
Manganese	0.0443		mg/L	0.0500		88.6	85-115	3.21	20	
Copper	0.0487		mg/L	0.0500		97.4	85-115	3.03	20	
Cadmium	0.0501		mg/L	0.0500		100	85-115	1.19	20	
Arsenic	0.0505		mg/L	0.0500		101	85-115	4.64	20	

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Analytical Results For:

PRICE LLC

Mercury

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO NM, 87124

Project: GUINI BRINE WELL

Project Number: NONE GIVEN

Project Manager: LESTER WAYNE PRICE, JR

Fax To: UNK-NOWN

Reported: 17-Nov-11 11:10

Total Metals by ICPMS - Quality Control

Cardinal Laboratories

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Mercury (Total) by CVAA - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1111411 - EPA 245.1	····									
Blank (1111411-BLK1)				Prepared &	Analyzed:	27-Oct-11				

mg/L

LCS (1111411-BS1) Prepared & Analyzed: 27-Oct-11

ND

Mercury 0.0022 mg/L 0.00200 110 85-115

0.0002

 LCS Dup (1111411-BSD1)
 Prepared & Analyzed: 27-Oct-11

 Mercury
 0.0021
 mg/L
 0.00200
 105
 85-115
 4.65
 20

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Celey D. Keene



Analytical Results For:

PRICE LLC

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO NM, 87124

Project: GUINI BRINE WELL

Project Number: NONE GIVEN

Project Manager: LESTER WAYNE PRICE, JR

Fax To: UNK-NOWN

Reported:

17-Nov-11 11:10

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1101905 - SPLP 1312										
Blank (1101905-BLK1)				Prepared: 1	17-Oct-11 A	Analyzed: 2	0-Oct-11			
Chloride	ND	4.00	mg/L							77771122713
LCS (1101905-BS1)				Prepared: 1	17-Oct-11 A	nalyzed: 2	0-Oct-11			
Chloride	112	4.00	mg/L	100		112	80-120			
LCS Dup (1101905-BSD1)				Prepared: 1	7-Oct-11 A	Analyzed: 2	0-Oct-11			
Chloride	108	4.00	mg/L	100		108	80-120	3.64	20	
Batch 1102105 - General Prep - Wet Chem								w 		
Blank (1102105-BLK1)				Prepared &	Analyzed:	21-Oct-11				
Alkalinity, Carbonate	ND	0.00	mg/L							
Alkalinity, Bicarbonate	ND	5.00	mg/L							
Alkalinity, Total	ND	4.00	mg/L							
LCS (1102105-BS1)				Prepared &	Analyzed:	21-Oct-11				
Alkalinity, Carbonate	ND	0.00	mg/L				80-120			
Alkalinity, Bicarbonate	ND	5.00	mg/L				80-120			
Alkalinity, Total	112	4.00	mg/L	100		112	80-120			
LCS Dup (1102105-BSD1)				Prepared &	Analyzed:	21-Oct-11				
Alkalinity, Carbonate	ND	0.00	mg/L				80-120		20	
Alkalinity, Bicarbonate	ND	5.00	mg/L				80-120		20	
Alkalinity, Total	120	4.00	mg/L	100		120	80-120	6.90	20	
Duplicate (1102105-DUP1)	Sou	rce: H102248-	-02	Prepared &	Analyzed:	21-Oct-11				
Alkalinity, Carbonate	ND	0.00	mg/L		0.00				20	·
Alkalinity, Bicarbonate	156	5.00	mg/L		161			3.15	20	
Alkalinity, Total	128	4.00	mg/L		132			3.08	20	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene



Analytical Results For:

PRICE LLC

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO NM, 87124

Project: GUINI BRINE WELL

Project Number: NONE GIVEN

Project Manager: LESTER WAYNE PRICE, JR

Fax To: UNK-NOWN

Reported: 17-Nov-11 11:10

Inorganic Compounds - Quality Control

Cardinal Laboratories

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 1102105 - General Prep - Wet Chem										
Matrix Spike (1102105-MS1)	Sou	rce: H102248	-02	Prepared &	Analyzed:	21-Oct-11				
Alkalinity, Carbonate	ND	0.00	mg/L		0.00		70-130			
Alkalinity, Bicarbonate	283	5.00	mg/L		161		70-130			
Alkalinity, Total	232	4.00	mg/L	100	132	100	70-130			
Batch 1102603 - *** DEFAULT PREP ***										
Blank (1102603-BLK1)				Prepared: 2	22-Oct-11 A	nalvzed: 2	6-Oct-11			
TDS	ND	5.00	mg/L					~~~		
LCS (1102603-BS1)				Prepared: 2	2-Oct-11 A	nalyzed: 2	6-Oct-11			
TDS	235		mg/L	240		97.9	80-120			
Duplicate (1102603-DUP1)	Sou	rce: H102277	-01	Prepared: 2	2-Oct-11 A	nalyzed: 2	6-Oct-11			
TDS	3260	5.00	mg/L		3260			0.00	20	
Batch 1102705 - General Prep - Wet Chem										
LCS (1102705-BS1)				Prepared &	Analyzed:	20-Oct-11				
Conductivity	509		uS/cm	500		102	80-120			
pH	7.11		pH Units	7.00		102	90-110			
Duplicate (1102705-DUP1)	Sou	rce: H102247	-01	Prepared &	Analyzed:	20-Oct-11				
pH	7.75	0.100	pH Units		7.73			0.258	20	
Conductivity	1410	1.00	uS/cm		1410			0.00	20	

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PLEASE NOTE: Liability and Demages. Cardinatis liability and clients exclusive remarky for any other cause whether bised in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whetherover shall be deemed welved unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages including, which initiation, business inflampations, loss of use, or loss of profits incurred by client, its substitutions, admitted or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether sucl client is bessed upon any of the above stated resource or otherwise. Results related only to the semples identified above. This report what not be reproducted except in full with written approved of Cardinal Laboratories.

Celey D. Keine



Analytical Results For:

PRICE LLC

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO NM, 87124

Project: GUINI BRINE WELL

Project Number: NONE GIVEN

Project Manager: LESTER WAYNE PRICE, JR

Fax To: UNK-NOWN

Reported:

17-Nov-11 11:10

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1103102 - General Prep - Wet Chem										
Blank (1103102-BLK1)				Prepared &	Analyzed:	28-Oct-11				
Sulfate	ND	10.0	mg/L							
LCS (1103102-BS1)				Prepared &	: Analyzed:	28-Oct-11				
Sulfate	20.9	10.0	mg/L	20.0		104	80-120			
LCS Dup (1103102-BSD1)				Prepared &	Analyzed:	28-Oct-11				
Sulfate	18.2	10,0	mg/L	20.0		91.0	80-120	13.8	20	
Duplicate (1103102-DUP1)	Sou	rce: H102247-	-01	Prepared &	: Analyzed:	28-Oct-11				
Sulfate	70.1	10.0	mg/L	•	67.5			3.78	20	
Batch 1110307 - General Prep - Wet Chem Duplicate (1110307-DUP1)	Sou	rce: H102247-	-01	Prepared &	Analyzed:	28-Oct-11		····		
Specific Gravity @ 60° F	0.9950	0.000	[blank]	Frepared &	0.9969	26-001-11		0.194	200	
Batch 1111105 - Filtration										
Blank (1111105-BLK1)				Prepared &	Analyzed:	25-Oct-11				
rss	ND	2.00	mg/L							
Duplicate (1111105-DUP1)	Sou	rce: H102248-	-01	Prepared &	: Analyzed:	25-Oct-11				
rss	6.00	2.00	mg/L		6.00			0.00	20	
Batch 1111413 - General Prep										
Blank (1111413-BLK1)				Prepared: 2	25-Oct-11 A	Analyzed: 26	6-Oct-11			
Cyanide (total)	ND	0.005	mg/L							

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Celey D. Keene



Analytical Results For:

PRICE LLC

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO NM, 87124

Project: GUINI BRINE WELL

Project Number: NONE GIVEN

Project Manager: LESTER WAYNE PRICE, JR

Fax To: UNK-NOWN

Reported: 17-Nov-11 11:10

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Allaye	Кош	Zitiik	СШЬ	Level	Resent	/OKEC	Limits	NI D	Limit	110005
Batch 1111413 - General Prep										
LCS (1111413-BS1)				Prepared: 2	25-Oct-11 A	nalyzed: 2	6-Oct-11			
Cyanide (total)	0.042		mg/L	0.0500		85.0	85-115			
LCS Dup (1111413-BSD1)				Prepared: 2	25-Oct-11 A	nalyzed: 2	6-Oct-11			
Cyanide (total)	0.047		mg/L	0.0500		94.8	85-115	10.9	20	
Batch 1111414 - General Prep								T- 1000		
Blank (1111414-BLK1)				Prepared &	: Analyzed:	01-Nov-11				
Fluoride	ND	0.200	mg/L							
LCS (1111414-BS1)				Prepared &	: Analyzed:	01-Nov-11				
Fluoride	1.09		mg/L	1.00		109	80-120			.,,,,,
LCS Dup (1111414-BSD1)				Prepared &	: Analyzed:	01-Nov-11				
Fluoride	1.09		mg/L	1.00		109	80-120	0.00	20	77.

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PLBASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim entaing, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other clause whatsoewer shall be deemed waterd unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable services. In no event shall Cardinal be liable for incidental or commenced demands, including, without inflation, business interruptions, loss of use, or loss of profits incurred by Clerk, its substituties, efficiency are a successors arising out of or related to the performance of the services harsunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results related only to the samples identified above. This report shall not be reproduced except in full with written approved of Cardinal Laboratories.

Celey L. Keene



Analytical Results For:

PRICE LLC

Project: GUINI BRINE WELL

Reported:

312 ENCANTADO RIDGE COURT, NE

Project Number: NONE GIVEN

17-Nov-11 11:10

RIO RANCHO NM, 87124

Project Manager: LESTER WAYNE PRICE, JR

Fax To: UNK-NOWN

TOTAL METALS BY ICP - Quality Control

Cardinal Laboratories

**	Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
4	Batch 1111410 - EPA 3005										
70	Blank (1111410-BLK1)				Prepared: 2	25-Oct-11 A	nalyzed: 20	5-Oct-11			700000
	Aluminum	ND	0.0500	mg/L							
	Iron	ND	0.060	mg/L							
	Boron	ND	0.300	mg/L							
400											
	LCS (1111410-BS1)				Prepared: 2	5-Oct-11 A	nalyzed: 20	5-Oct-11			
	Boron	3.86		mg/L	4.00		96.5	85-115			
	Aluminum	3.94		mg/L	4.00		98.5	85-115			
-	Iron	3.89		mg/L	4.00		97.2	85-115			
***	LCS Dup (1111410-BSD1)				Prepared: 2	25-Oct-11 A	nalyzed: 20	5-Oct-11			
	Boron	3.89		mg/L	4.00		97.2	85-115	0.774	20	
790	Iron	3.92		mg/L	4.00		98.0	85-115	0.768	20	
	Aluminum	3.95		mg/L	4.00		98.8	85-115	0.253	20	

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any other cause whatsoever shall be deemed waved unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for indicated or consequential dan including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its aubiditaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether claim is bessed upon any of the above stated reasons or otherwise. Results related only to the semples identified above. This report shall not be reproduced except in full with written approved of Cardinal Laboratories.

Celey D. Keene



Notes and Definitions

GAL Analysis subcontracted to Green Analytical Laboratories, a subsidiary of Cardinal Laboratories.

BS1 Blank spike recovery above laboratory acceptance criteria. Results for analyte potentially biased high.

Target analyte detected in method blank at or above method reporting limit. Sample concentration found to be 10 times above the concentration found in the method blank or less than the reporting limit.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

** Samples not received at proper temperature of 6°C or below.

Insufficient time to reach temperature.

Chloride by SM4500Cl-B does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

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PLEASE NOTE: Lability and Demogras. Cardinal's flability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause vibrateower shall be deemed welves thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential claimages, including, whether limitation, because interface, limitation, because interface, profits incurred by client, its absolidaries, affiliation or including, whether incidental interface, because interface or excessors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claims is based upon any of the above stated reasons or otherwise. Results related only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keena



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

	101 East Mariand, Hobbs, (575) 393-2326 FAX (575)						
Company Name			BILL TO	ANALY	SIS REQUEST		
Project Manage		The same	P.O. #: 📆	4			
Address: З	16 Swentile	_R.14 Court NE	Company: KE SHET				
City: 🔼 🚁	State	te: N/A Zip: 8704	Attn:				
Phone #: 📆 ိ	-842 -6503Fax1	#: <u></u>	Address: Address: Address:				
Project #:		ect Owner:	City: Single				
Project Name:	(Gallinia)_ Bo	Edo	State: NJA Zip: 27.63				
Project Locatio	n: EUNIC	E D	Phone #: 55 75 754 754				
Sampler Name:	Lusten Mu	ax tresto	Fax #:				
FOR LAB USF ONLY		MATRIX	PRESERV SAMPLING	2 3			
		(C)OMP ERS ATER TER					
Lab I.D.	Sample I.D.	NATE	<u> </u>				
		(G)RAB OR (C)C # CONTAINERS GROUNDWATE WASTEWATER SOIL	CO CO CO CO CO CO CO CO CO CO CO CO CO C				
H102262	1	(G)RAB OR (C)C # CONTAINERS GROUNDWATE WASTEWATER SOIL	ACIDISASE: ACIDISASE: ACIDISASE: OTHER: THERE				
4			2 2 13:00				
B C 2							
	Brine Wider			-			
- 2	191 me word						
<i>F</i>							
<u> </u>							
PI FARE MOTE: I lentille	and Democrate Condingto Robits, and client's auch		act or tort, shall be limited to the amount paid by the client				
analyses. All claims includ	Fing those for neuligence and any other cause what	Ispever shall be deemed waived unless made in writing	act or tors, shall be similed to the amount paid by the client and received by Cardinal within 30 days after completion o is, loss of use, or loss of profils incurred by client, its subsi	f the applicable			
affiliates or successors aris Relinquished B			m is based upon any of the above stated reasons or other Phone R	Mise.	200 4:		
· ·		PIED TO A. A	Fax Res	ult: 🛘 Yes 🗘 No Add'l Fax			
Relinquished B	Days Por		WALL REMAR	10;			
Kennquisnea B	!	, V					
	Time						
_	r: (Circle One)	Sample Cond Cool Intact	/ /ihitiale)				
Sampler - UPS	- Bus - Other:	(1) Pres Ty	es UTT				

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

Page 17 of 17

APPENDIX C C-141 Spill Report and Photos

HOBBS OCD

District I 1625 N. French Dr., Hobbs, NM 88240 District II 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Senta Fe, NM 87505

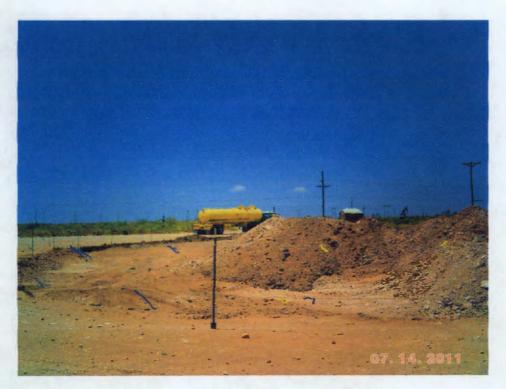
State of New Mexico Energy Minerals and Natural Resources JUN 0 6 2011

Form C-141 Revised October 10, 2003

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

Submit 2 Copies to appropriate
District Office in accordance
with Rule 116 on back
side of form

	Release Notification and Corrective Action											
					C	PERAT	OR	1	k Initia	al Report	☐ Fin	al Report
Name of Co						Contact	Bob Fisher					
Address Facility Nar		99 Eunice, e S Water S				Telephone No. 575-394-2581 Facility Type Brine & Fresh Water Sales						
			nation					0311 171			4 0001	
Surface Ow	ner Deck	Estate		Mineral O	wner	State of No	ew Mexico		Lease N	lo. MS 000	4 0001	
			,				LEASE API				47-0	<u>00-ε</u>
Unit Letter E	Section 15	Township 21S	Range 37E				Feet from the 330		West Line west	County Lea		
	Latitude_N32° 29' 02.2 Longitude_W103° 09' 28.8"											
T CD-l-		adad tasels		NAT	URE	OF REL	Release 100 bbls		Volume F	Recovered	40 bb	le]
Type of Rele Source of Re			ruck-Bron	nco Services			lour of Occurrence			Hour of Dis		
						30-2011 (@ 8 am			
Was Immedia	ate Notice (]Yes [□ No □ Not		If YES, 10	Whom? Noey F	ranco.	supervisor (on duty		
By Whom?	John Sander	rs					lour 5-30-2011 @					
Was a Water	course Read		Yes x[□ No		If YES, Vo	olume Impacting t	the Wat	ercourse.			
If a Watercou	rse was Im	pacted, Descr	ibe Fully.	•								
1												
									GW6	1631		
		em and Remo		n Taken.* loading his truck.								1
			•• •	g								}
												1
Describe Are	a Affected	and Cleanup /	Action Tal	cen.*								
Area North o	f the loadin	g docks. Ran	on Ponce	with Bronco Servi	ices Wi	il take care of	the clean up & e	xpense				1
												1
I hereby certi	fy that the i	nformation gi	ven above	is true and compl	ete to th	ne best of my	knowledge and u	ndersta	nd that purs	suant to NM	OCD rules a	ind
				nd/or file certain re								
				e of a C-141 report investigate and re								
		ddition, NMC		tance of a C-141 r	eport de	oes not reliev	e the operator of i	respons	ibility for c	ompliance w	rith any other	ar
Icucial, State,	Of IOCal Iav	ws andror regu	ilatrons.	· · · · · · · · · · · · · · · · · · ·			OIL CON	SERV	ATION	DIVISIO	N	
Signature: Ro	hart I Fish											1
Printed Name						Approved by	ENV SPECIA District Supervis	<u> </u>	Glerk	20 L Bu	r M^	
Title: District	Manager					Approval Dat	e: 06 08 11		- (Date: 08	विश्वी।	
E-mail Addre	ss: rfisher@	keyenergy.co	om_	······		Conditions of	Approval: 5UB	mn	FINAL	Attached	П	
Date: 5-3 2581	31-2011			Phone: 575-39		0 0			1	-11 - Z	161	
												. •



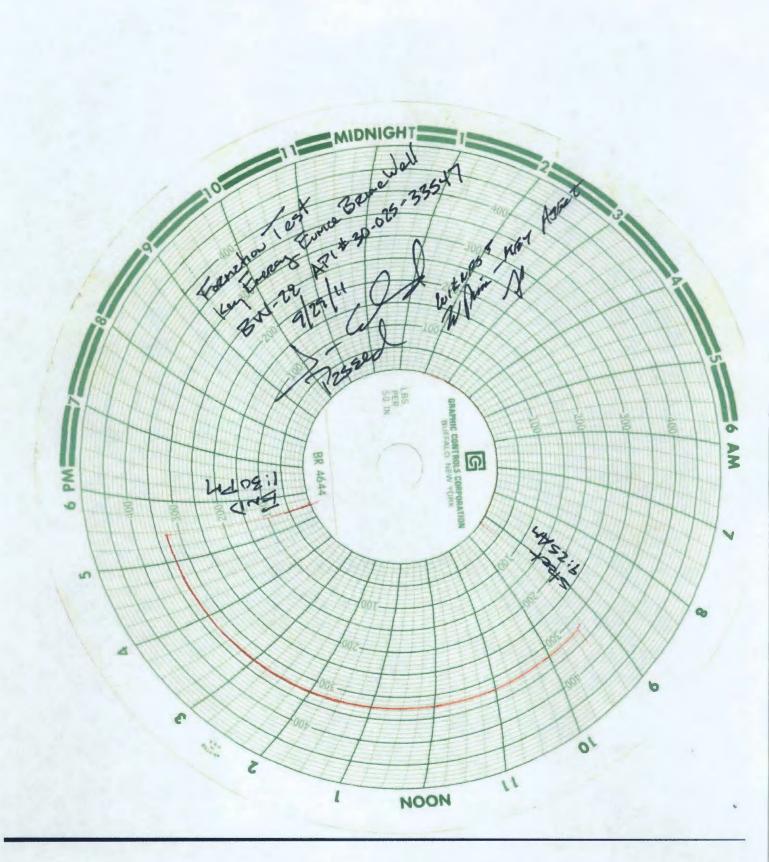
Key Energy BW-28 Brine Spill Area-looking west



Key Energy BW-28 shows loading pad area where brine water ran off pad. Spill was contained on-site.

APPENDIX D MIT TEST CHART

Submit 1 Copy To Appropriate District Office	State of New Mexico	Form C-103
	y, Minerals and Natural Resource	WELL API NO.
1625 N. French Dr., Hobbs, NM 88240 District II - (575) 748-1283		The second secon
District II - (575) 748-1283 811 S. First St., Artesia, NM 883EP 2 2 2011OIL	CONSERVATION DIVISIO	N 5. Indicate Type of Lease
District III - (505) 334-6178	1220 South St. Francis Dr.	STATE X FEE
1000 Rio Brazos Rd., Aztec, NM 87410 <u>District IV</u> - (505) 476-3460 1220 S. St. Francis Dr., Santa Fe, NRECEIVED	Santa Fe, NM 87505	6. State Oil & Gas Lease No. MS-0004
67303 .	EDORTS ON WELLS	
SUNDRY NOTICES AND F (DO NOT USE THIS FORM FOR PROPOSALS TO DRII DIFFERENT RESERVOIR. USE "APPLICATION FOR	L OR TO DEEPEN OR PLUG BACK TO	7. Lease Name or Unit Agreement Name A STATE S
PROPOSALS.)	7 Ostan Bring Well	8. Well Number #1
71	Other Brine Well	
2. Name of Operator		9. OGRID Number
Key Energy Services		10. Pool name or Wildcat
3. Address of Operator Box 99 Eunice, N.M. 88231		BSW-SALADO
		BSW-SALADO
4. Well Location		
Unit Letter E :_ 1340	feet from theN	line and330feet from the
line		
Section 15	Township 21S Range	37E NMPM County LEA
	ion (Show whether DR, RKB, RT,	
12 Charle Ammaniet	Dow to Indianta Natura of N	Tation Depart on Other Date
12. Check Appropriat	e Box to Indicate Nature of N	ionce, Report or Other Data
NOTICE OF INTENTION	I TO:	SUBSEQUENT REPORT OF:
	D ABANDON REMEDIA	
TEMPORARILY ABANDON		ICE DRILLING OPNS. P AND A
	E COMPL CASING/	CEMENT JOB
DOWNHOLE COMMINGLE		
OTHER	X OTHER:	TEST FORMATION TO SECT
OTHER:	X OTHER:	TEST FORMATION TO 350#
13 Describe proposed or completed operat	ions. (Clearly state all pertinent de	tails, and give pertinent dates, including estimated date
		iple Completions: Attach wellbore diagram of
proposed completion or recompletion.		7
PRESSURE FORMATION TO 350# WITH FR	ESH WATER FOR 4 HR TEST	TEST DATE 9-29-2011
		· ·
		· p
. *		
· Carlotte ·		
- Union Prairie		/-
, , , , , , , , , , , , , , , , , , , ,		
Spud Date:	Rig Release Date:	,
I hereby certify that the information above is tru	e and complete to the best of my ki	nowledge and belief.
1		* _ 11
11001 - 1	(, ,	1
SIGNATURE folit 1. Juli	TITLE Sistaict	MANAGER DATE 9/21/011
		4
Type or print name	E-mail address:	PHONE:
For State Use Only	1	
# /		
APPROVED BY:	TITLE JAMES	NOT DATE 9-22-201
Conditions of Approval (If any)		

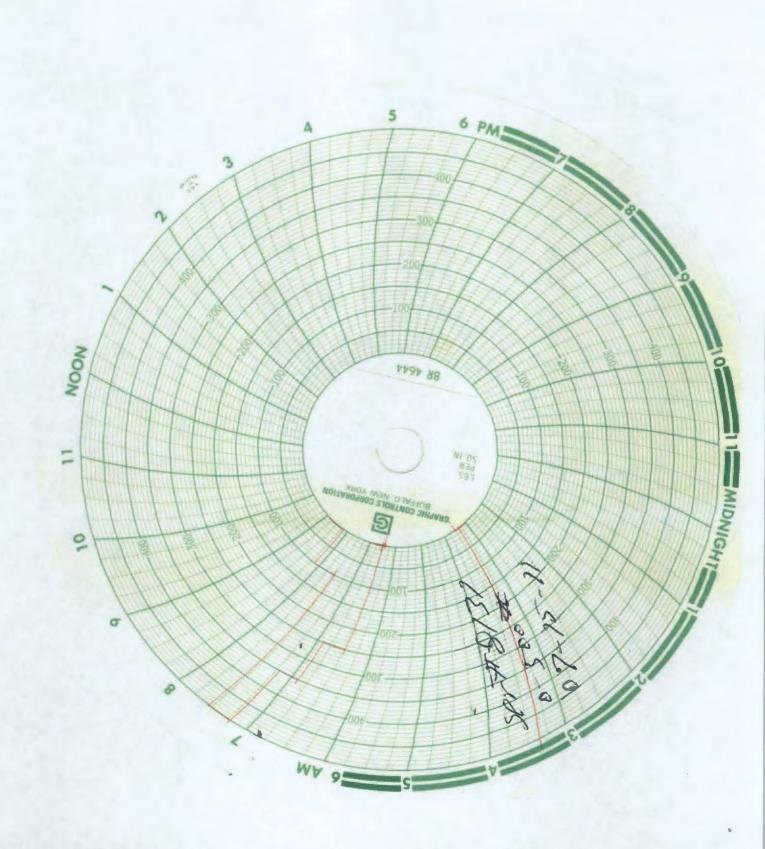


American Valve & Meter, Inc.

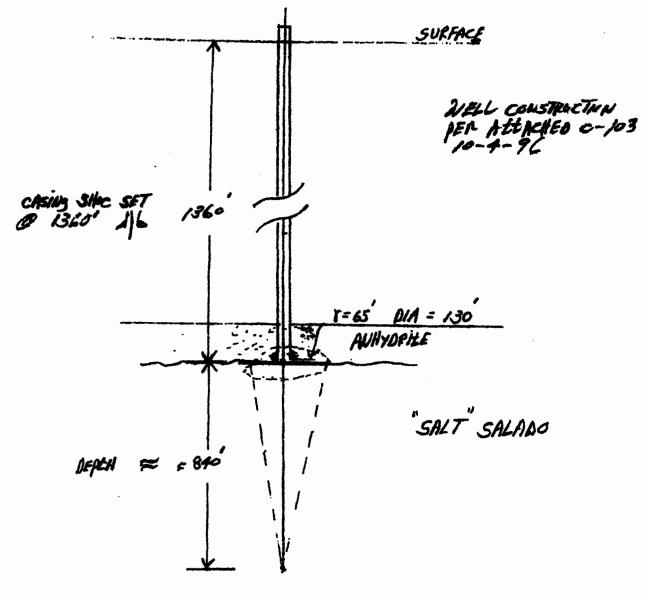
1113 W. BROADWAY P.O. BOX 166 HOBBS, NM 88240

TO:	Rey		DATE:_	07-15	- 77
This is to	certify that:				
1, Bud	Collins		, Technician for A	merican Valve	& Meter
Inc., has c	becked the call	breiles of the	following instrument		
Brer	essure	recorde	Serial No.	81.3	1
at these pa	olinets.				72-
Pressure_	0-50	**	Temperature		
Test	Found	Left	Test	Found	Left
_0		0	-		
25° 35°		250			
350		350		-	
500		3-00			
100		100		*Attack autilian	-
0		0		_	
Remark	:s:				
1					

Signature Budlaller



APPENDIX E BRINE CAVITY CALCULATIONS



Total Brino Produced Thru 2010 = 3,767,496 BBLS = 3.8 M Thru 2011 2011 NEW CALCULATIONS

L = 1 3.8 x 106.3

r = 65.73 = 66 At

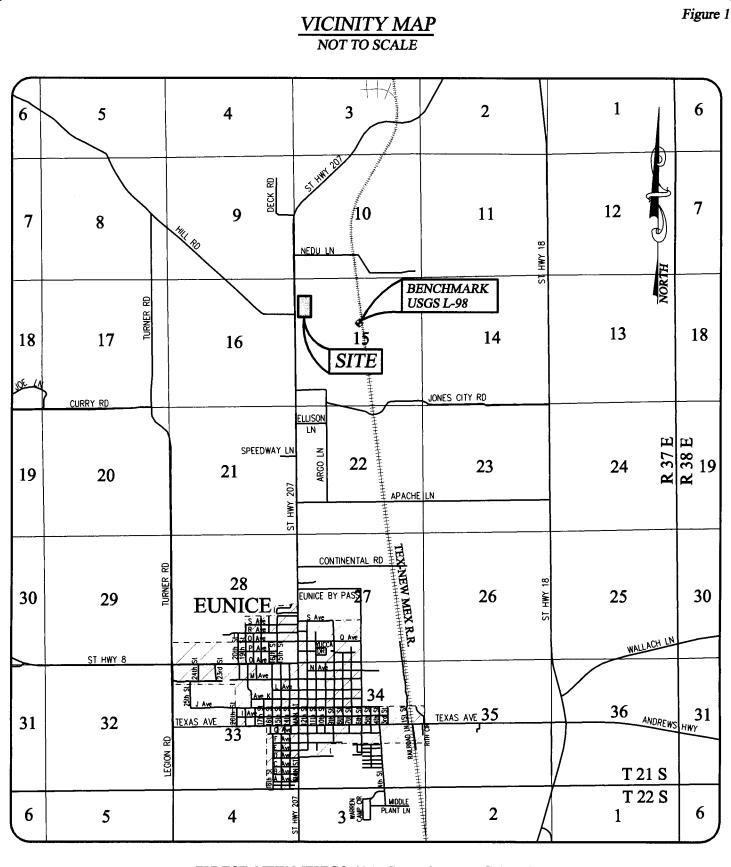
d = dia moder = 130 H

N = 1360 H

of = .097 = .1

radius = Γ = 67, 43 \simeq 68 ft diameter = d = 136 ft

= .1



EUNICE, NEW MEXICO AND SURROUNDING AREA



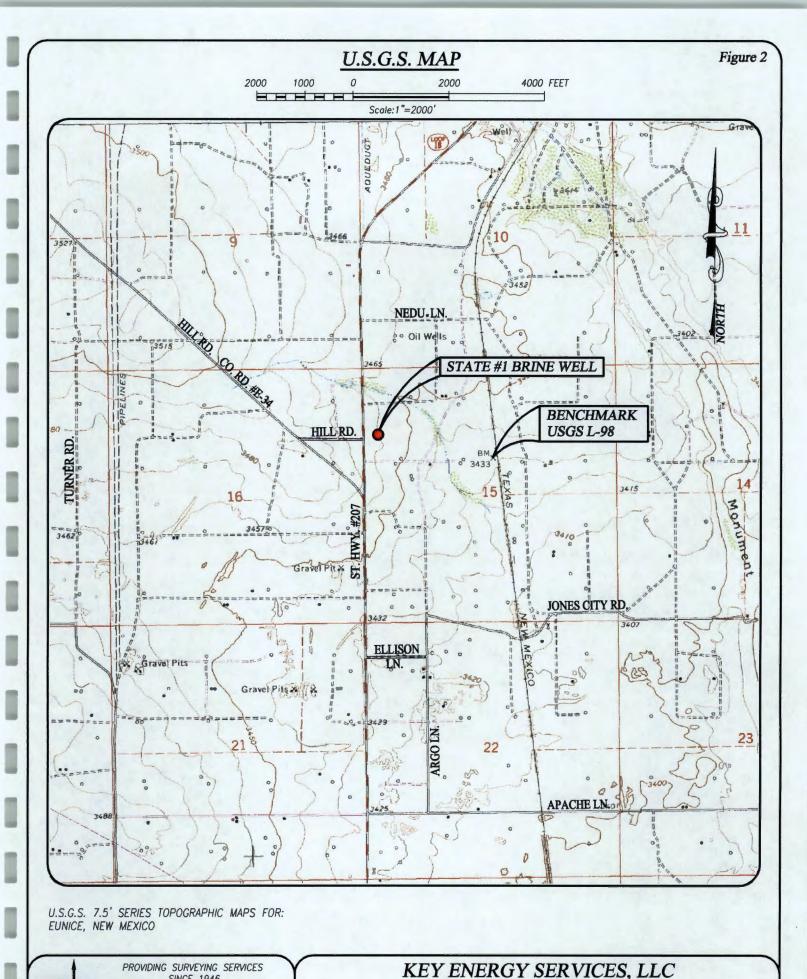
PROVIDING SURVEYING SERVICES
SINCE 1946

JOHN WEST SURVEYING COMPANY

412 N. DAL PASO HOBBS, N.M. 88240 (575) 393–3117

KEY ENERGY SERVICES, LLC

SUBSIDENCE MONITORING FOR THE
KEY ENERGY STATE #1 BRINE WELL IN SECTION 15,
TOWNSHIP 21 SOUTH, RANGE 37 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO



SUBSIDENCE MONITORING FOR THE

KEY ENERGY STATE #1 BRINE WELL IN SECTION 15,

TOWNSHIP 21 SOUTH, RANGE 37 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO

(575) 393-3117 DonnoS\Tracts\Subsidence Monitoring\Key Energy Services, LLC\11111996 State #1\11111996.dwg 01/20/12

SINCE 1946

JOHN WEST SURVEYING COMPANY

412 N. DAL PASO HOBBS, N.M. 88240

LOCATION MAP

1000 500 0 1000 2000 FEET

Scale:1"=1000



NOTE

BEARINGS SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983. DISTANCES ARE SURFACE VALUES.

LEGEND

DENOTES FOUND CORNER AS NOTED



PROVIDING SURVEYING SERVICES SINCE 1946

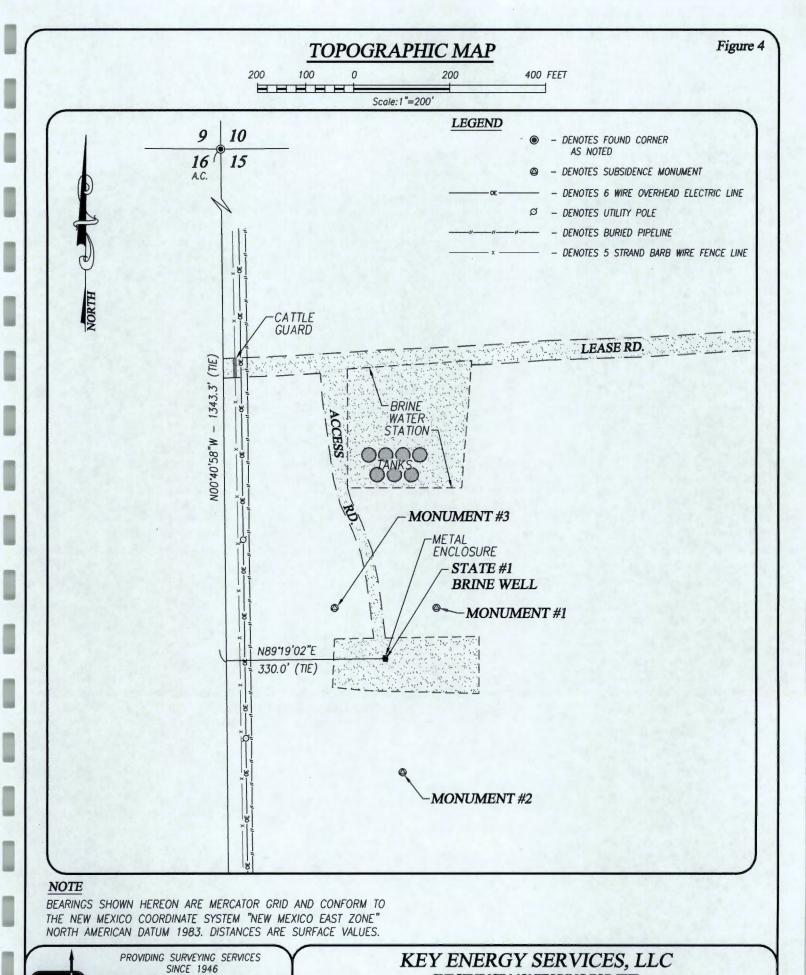
JOHN WEST SURVEYING COMPANY

412 N. DAL PASO HOBBS, N.M. 88240 (575) 393-3117

KEY ENERGY SERVICES, LLC

SUBSIDENCE MONITORING FOR THE KEY ENERGY STATE #1 BRINE WELL IN SECTION 15, TOWNSHIP 21 SOUTH, RANGE 37 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO

DonnoS\Tracts\Subsidence Monitoring\Key Energy Services, LLC\11111996 State #1\11111996.dwg 01/20/12



SUBSIDENCE MONITORING FOR THE

KEY ENERGY STATE #1 BRINE WELL IN SECTION 15,

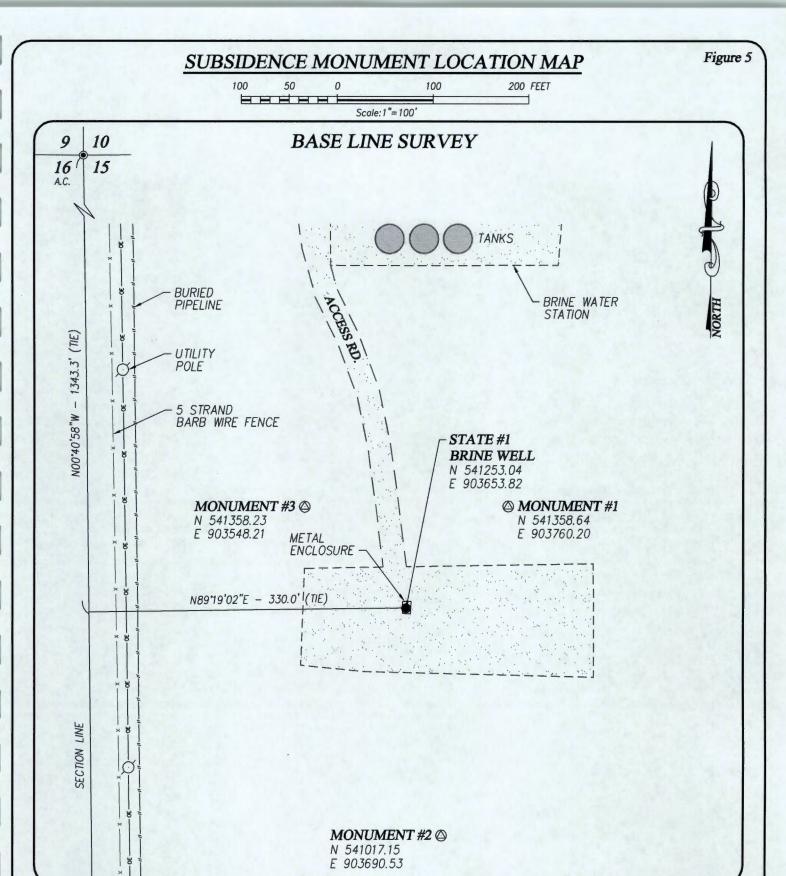
TOWNSHIP 21 SOUTH, RANGE 37 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO

(575) 393-3117

DonnoS\Tracts\Subsidence Monitoring\Key Energy Services, LUC\11111996 State \$1\11111996.dwg 01/20/12

JOHN WEST SURVEYING COMPANY

412 N. DAL PASO HOBBS, N.M. 88240



NOTE

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PROVIDING SURVEYING SERVICES SINCE 1946

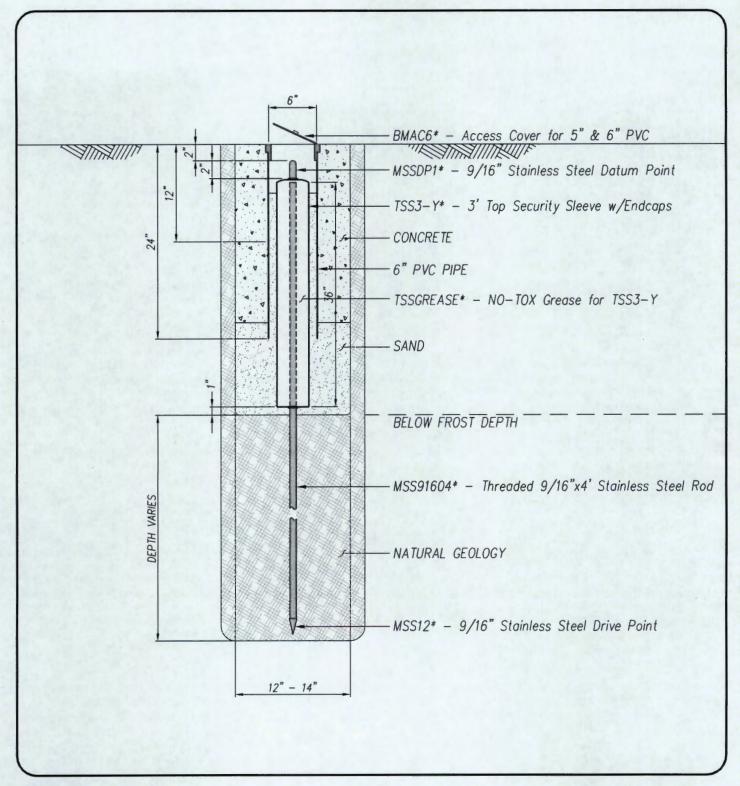
JOHN WEST SURVEYING COMPANY 412 N. DAL PASO HOBBS, N.M. 88240 KEY ENERGY SERVICES, LLC SUBSIDENCE MONITORING FOR THE

KEY ENERGY STATE #1 BRINE WELL IN SECTION 15,
TOWNSHIP 21 SOUTH, RANGE 37 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO

(575) 393-3117

DonnaS\Tracts\Subsidence Monitorina\Key Fneray Services. LLC\11111996 State #\\11111996.dwa 01/20/12

BERNTSEN MONUMENT INSTALLATION DETAIL NOT TO SCALE



*REFERENCE:
www.berntsen.com
9/16" STAINLESS STEEL TOP SECURITY SLEEVE MONUMENT



PROVIDING SURVEYING SERVICES SINCE 1946 OHN WEST SURVEYING COMPA

JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240

KEY ENERGY SERVICES, LLC

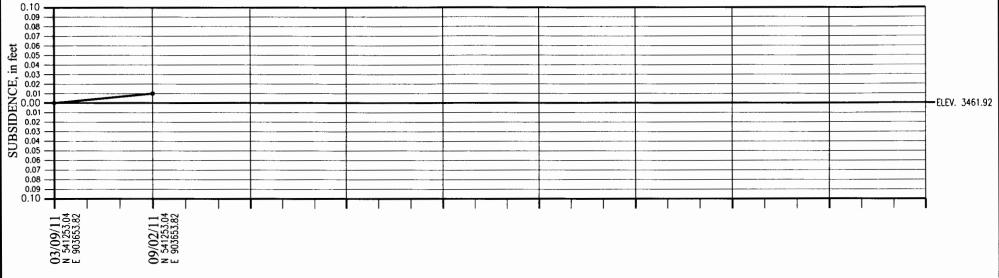
SUBSIDENCE MONITORING FOR THE KEY ENERGY STATE #1 BRINE WELL IN SECTION 15, TOWNSHIP 21 SOUTH, RANGE 37 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO

(575) 393-3117

DonnaS\Tracts\Subsidence Monitorina\Key Energy Services, LLC\11111996 State 4\\11111996.dwa 01/20/12

VERTICAL SUBSIDENCE TABLE





SUBSIDENCE MONUMENT #1 BASE LINE ELEVATION 3457.93

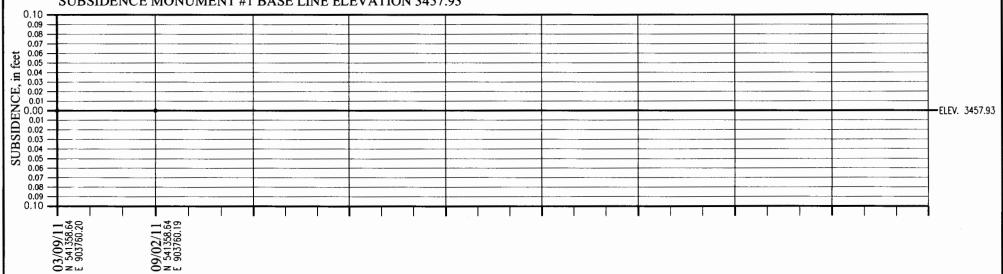


Figure 7A



PROVIDING SURVEYING SERVICES SINCE 1946

JOHN WEST SURVEYING COMPANY

412 N. DAL PASO HOBBS, N.M. 88240 (575) 393-3117

NOTE:

HORIZONTAL ACCURACY OF EQUIPMENT PER MANUFACTURER ±0.02 FT. VERTICAL ACCURACY OF EQUIPMENT PER MANUFACTURER ±0.01 FT.

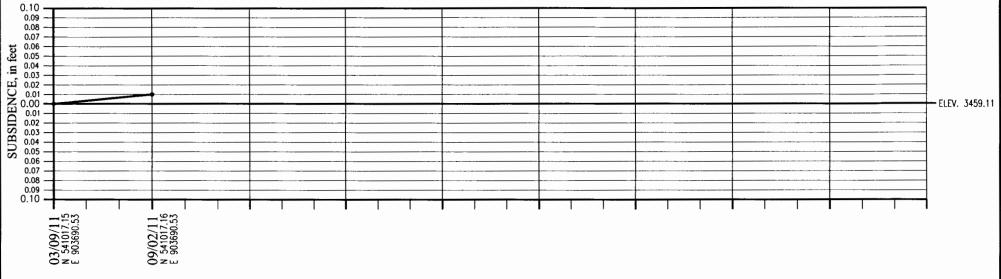
KEY ENERGY SERVICES, LLC

SUBSIDENCE MONITORING FOR THE KEY ENERGY STATE #1 BRINE WELL IN SECTION 15, TOWNSHIP 21 SOUTH, RANGE 37 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO

DonnoS\Tracts\Subsidence Monitoring\Key Energy Services, LLC\11111996 State \$1\11111996.dwg 01/20/12

VERTICAL SUBSIDENCE TABLE





SUBSIDENCE MONUMENT #3 BASE LINE ELEVATION 3460.49

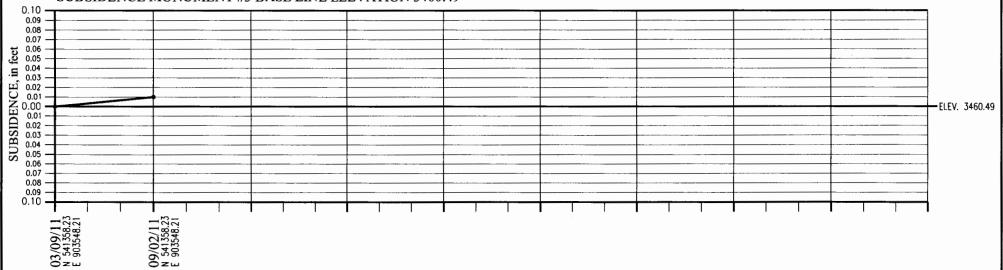


Figure 7B



PROVIDING SURVEYING SERVICES SINCE 1946

JOHN WEST SURVEYING COMPANY

412 N. DAL PASO HOBBS, N.M. 88240 (575) 393-3117

NOTE:

HORIZONTAL ACCURACY OF EQUIPMENT PER MANUFACTURER ±0.02 FT. VERTICAL ACCURACY OF EQUIPMENT PER MANUFACTURER ±0.01 FT.

KEY ENERGY SERVICES, LLC

SUBSIDENCE MONITORING FOR THE KEY ENERGY BW-19 CARLSBAD No. 1 WELL IN SECTION 36, TOWNSHIP 22 SOUTH, RANGE 26 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO

DannaS\Tracts\Subsidence Monitoring\Key Energy Services, ELC\11111996 State \$1\11111996.dwg 01/20/12

APPENDIX F

AREA OF REVIEW

- Well Status List Spreadsheet- 1 page
- AOR Plot Plan- 1 page
- 2011 AOR Check Off List- 9 pages
- Critical AOR Wells last OCD file record-4 pages
- Two Additional Wells investigated near the Critical AOR-13 pages

2011 BW-28 AOR Review-- Well Status List up-dated Dec 23, 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
											9	
1	30-025-33547	Key-State no.001	-	15	218	370				NA		
l	30-025-06591	Apache NEDU 604	E	15	218	37e	2310 FNL & 990 FWL		1	no	check again 2012 report	check again 2012 report
1	30-025-09913	Shell NEDU 603	E	15	218	37e	3390 FSL & 4520 FEL	yes*	1 1	yes	yes	no
l	30-025-09914	Apache NEDU 602	E	15	215	37e	1980 FNL & 660 FWL	yes*	1 1	yes	yes	no
1	30-025-35271	Apacha NEDU 602625	8	15	21s	37e	2580 FNL & 1300 FWI	no		na	na	na
)	30-025-37223**	Apache NEDU 628	E	15	21s	37e	1410 FNL & 380 FWL	Not Drilled	0 0	na	ne	na
	30-025-06609	Chevron St. 002	C	15	218	37e	660 FNL & 1980 FWL	no		na	Na	OB
	30-025-06611	Chevron St. 004	C	15	21s	37e	660 FNL & 2080 FWL	no		ne	ne	na
	30-025-06613	Apacha NEDU 605	C	15	21s	37e	760 FNL & 1980 FWL	no		na	DM .	na
	30-025-34649	Apache NEDU 622	c	15	218	37e	1229 FNL & 2498 FWL			ne	DB .	ne
	30-025-34886	Apache NEDU 524	c	15	215	37e	160 FNL & 1350 FWL			na	20	70
	30-025-39831(added 2010)	Chevron State S no. 2	C	15	215	37e	990 FNL & 1330 FWL			no	check again 2012 report	check again 2012 report
	30-025-34887	Apacha NEDU 624	c	15	215	37e	1250 FNL & 1368 FWL	yes yes	1	no	check again 2012 report	check again 2012 report
								THE RESERVE OF THE PERSON NAMED IN			Citoti Ogain a can report	
	30-025-06586	Chevron St. 001	D	15	215	37e	660 FNL & 660 FWL	yes*	1 1	yes	yes	no
	30-025-06612	Chevron St. 005	D	15	21s	37e	660 FNL & 990 FWL	yes	1	yes	yes	no
	30-025-06614	Apache NEDU 601	D	15	21s	37e	600 FNL & 990 FWL	yes	1	yes	yes	no
	30-025-36809	Apacha NEDU 526	D	15	215	37e	130 FNL & 330 FWL	yes	1	no	check again 2012 report	check again 2012 report
	30-025-06585	Apache St. 002	F	15	21s	37e	1980 FNL & 1980 FWI	no		na	ne	ne
	30-025-06587	Apacha NEDU 606	F	15	215	37e	3375 FSL & 3225 FEL	no		na	na	ne
	30-025-06590	Apache NEDU 608	F	15	21s	37e	1980 FML & 1880 FWI			na	na	ne
	30-025-06603	Apache Argo 006	· ·	15	21s	37e	1650 FSL & 2310 FWL	no		ne	ne ne	na
	30-025-06607(added 2010)	Apache Argo 011	2	15	218	37e	2080 FSL & 1650 FWI			na	na	na
	30-025-09918	Apache NEDU 703		15	218	37e	1980 FSL & 1980 FWI			na	na na	na na
			- 5								na	ne
	30-025-39828	Apache Argo 14	K	15	21s	37a	2190 FSL & 2130 FWI			na		
	30-025-34657	Apache NEDU 623	K	15	21s	37e	2540 FSL & 2482 FWL	no		na	ne	na
	30-025-06606	Apache Argo 010	L	15	21s	37e	1880 FSL & 760 FWL	no		na	na	na
	30-025-09915	Apache Argo 007	L	15	21s	37e	2310 FSL & 990 FWL	no		na	na	na
	30-025-09916	Apache NEDU 701	L	15	215	37e	1980 FSL & 660 FWL	no		na	na	na
	30-025-34888	Apache NEDU 713	L	15	215	37e	1330 FSL & 1142 FWI			na	ne	na
	30-025-37238	Apache NEDU 629	L	15	218	37e	2630 FSL & 330 FWL	yes	1	no	check again 2012 report	check again 2012 report
	30-025-06623	Apache WBDU 057	A	16	216	37e	660 FNL & 660 FEL	yes	1	no	check again 2012 report	check again 2012 report
	30-025-25198	Chevron HUNCT 006	Â	16	215	37e	330 FNL & 600 FEL	no		no	na na	na
	30-025-23190	Apache WBDU 113	Â	16	218	37e	1290 FML & 330 FEL	yes*	1 1	yes	yes	no
	30-025-06621	Apache WBDU 056	H	16	215	37e	1980 FNL & 660 FEL	yes	1	no	check again 2012 report	check again 2012 report
	30-025-06624	Chevron HLNCT 005	H	16	218	37e	2310 FML & 330 FEL	yes	1	no	check again 2012 report	check again 2012 report
	30-025-36741	Chevron HLNCT 007	н	16	21s	37e	1330 FNL & 1070 FEL	no		na	na	ne
	30-025-37834	Chevron HLNCT 008	H	16	21s	37e	2310 FNL & 030 FEL	yes	1	no	check again 2012 report	check again 2012 report
	30-025-06617	Apache St. DA 005	1	16	21s	37e	1980 FSL & 330 FEL	no		na	na	ne
	30-025-06619	Apache WBDU078	,	16	218	37e	1980 FSL & 660 FEL	no		na	na	na
			7									na
1	30-025-06619 30-025-37916	Apache St.								DA 013 I 16 21s 37e 1650 FSL & 780 FEL no		DA 013 I 16 21s 37e 1650 FSL 8,780 FEL no ne ne

³⁹ Total # of wells in adjacent quarter-sections

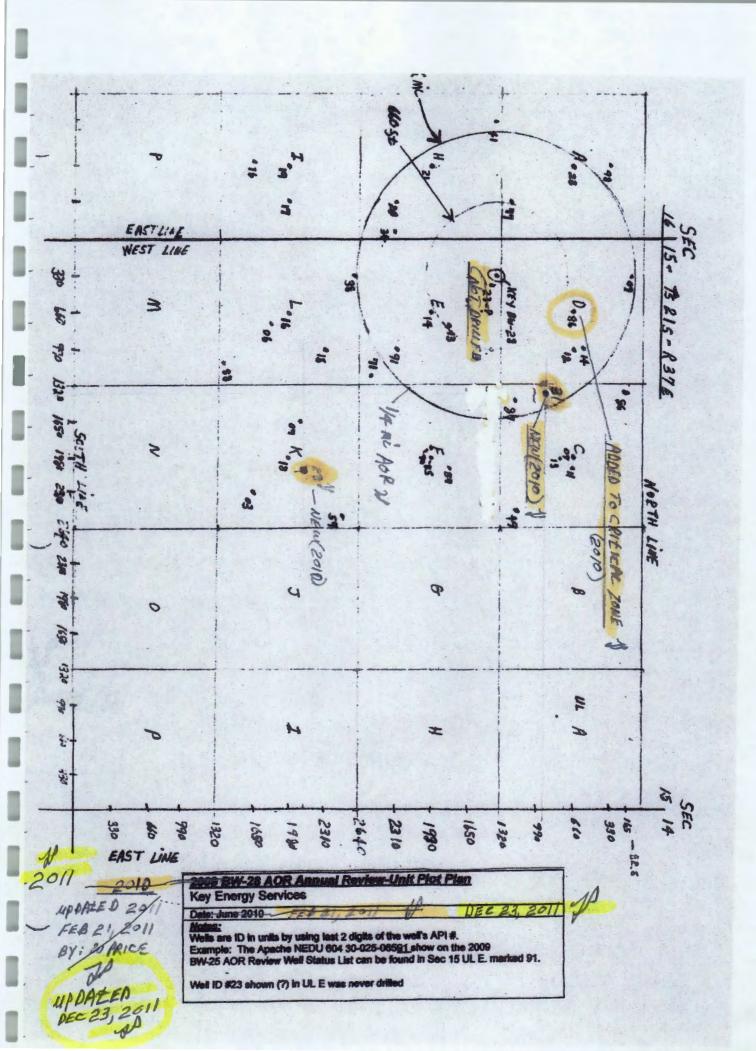
¹⁵ Total # of wells in 1/4 mile AOR

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 annually.

* API # 30-025-37223 not drilled



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.

DEC 2011

7 Records Found

Displaying Screen 1 of 1

	API Number	ULSTR	Footages
- 0	3002506609	C -15-21S-37E	660 FNL & 1980 FWL
•	Well Name & Number: STA		
	Operator: CHEVRON U S	A INC	
	3002506611	C -15-21S-37E	660 FNL & 2080 FWL
	Well Name & Number: STA		
-	Operator: CHEVRON U S	A INC	. /
- 0	3002506613	C -15-21S-37E	760 FNL & 1980 FWL
78 8	Well Name & Number: NOF		IT No. 605
_	Operator: APACHE CORP		. /
	3002534649	C -15-21S-37E	1229 FNL & 2498 FWL
	Well Name & Number: NOF	,	IT No. 622
	Operator: APACHE CORP		1/
	3002534886	C -15-21S-37E	160 FNL & 1350 FWL
•	Well Name & Number: NOF		II No. 524
_	Operator: APACHE CORP		
• 0	3002534887	C -15-21S-37E	1250 FNL & 1368 FWL
•	Well Name & Number: NOF Operator: APACHE CORP		II NO. 624
~	•		
	3002539831	C -15-21S-37E	990 FNL & 1330 FWL
-	Well Name & Number: STA Operator: CHEVRON U S		
	Operator. Chevitori U S	A INC	
7 Re	ecords Found	Displaying Scre	en 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.

DEC 2011

5 Records Found

Displaying Screen 1 of 1

_		API Number	ULSIR	rootages	/
*	\bigcirc	3002506603	K -15-21S-37E	1650 FSL & 2310 FW	L
		Well Name & Number: ARG	O No. 006		
		Operator: APACHE CORP			
•	0	3002506607	K -15-21S-37E	2080 FSL & 1650 FW	L
	-	Well Name & Number: ARG	O No. 011		
-		Operator: APACHE CORP			
-	\bigcirc	3002509918	K -15-21S-37E	1980 FSL & 1980 FW	LV
	<u>``</u> `	Well Name & Number: NOF			
-		Operator: APACHE CORP			
	$\overline{}$	3002534657	K -15-21S-37E	2540 FSL & 2482 FW	L
74 5	'بــــ'	Well Name & Number: NOF			_
		Operator: APACHE CORP			
200	$\overline{\Box}$	3002539828	K -15-21S-37E	2190 FSL & 2130 FW	, u'
3 69	U	Well Name & Number: ARG		2180 TOL & 2130 TW	_
		Operator: APACHE CORP			
		Operator. AFACITE CORF			

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.

DEC 2011

3 Records Found

Displaying Screen 1 of 1

		API Number	ULSTR	Footages	. /
	\bigcirc	3002506623	A -16-21S-37E	660 FNL & 660 FEL	
•		Well Name & Number: WES	ST BLINEBRY DRINKARD	UNIT No. 057	
,		Operator: APACHE CORP			_
•	$\langle \overline{} \rangle$	3002525198	A -16-21S-37E	330 FNL & 600 FEL	
•		Well Name & Number: HAF	RRY LEONARD NCT E No		
,		Operator: CHEVRON U S	A INC		
1	\bigcirc	3002539277	A -16-21S-37E	1290 FNL & 330 FEL	1/
	`	Well Name & Number: WES	ST BLINEBRY DRINKARD		
•		Operator: APACHE CORP	1		

3 Records Found

Displaying Screen 1 of 1

Continue Go Back

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.

DEZ 2011

5 Records Found

Displaying Screen 1 of 1

	API Number	ULSTR	Footages	. /
- 0	3002506606	L -15-21S-37E	1880 FSL & 760 FWL	
	Well Name & Number: ARG	O No. 010		
	Operator: APACHE CORP			_
1	3002509915	L -15-21S-37E	2310 FSL & 990 FWL	
4	Well Name & Number: ARC	SO No. 007		
•	Operator: APACHE CORP			
	3002509916	L -15-21S-37E	1980 FSL & 660 FWL	
	Well Name & Number: NOF	RTHEAST DRINKARD UN	IT No. 701	
	Operator: APACHE CORP			
	3002534888	L -15-21S-37E	1330 FSL & 1142 FWL	
•	Well Name & Number: NOF			
	Operator: APACHE CORP			
\Box	3002537238	L -15-21S-37E	2630 FSL & 330 FWL	
•	Well Name & Number: NOF			
**	Operator: APACHE CORP			

5 Records Found

Displaying Screen 1 of 1

Continue Go Back

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.

DEZ 2011

3 Records Found

Displaying Screen 1 of 1

•	API Number	ULSTR	Footages	,
• (3002506585	F -15-21S-37E	1980 FNL & 1980 FWL	
3	Well Name & Number	r: CITIES S STATE No. 002		
	Operator: APACHE	CORP		
1 (3002506587	F -15-21S-37E	3375 FSL & 3225 FEL	
ď	Well Name & Numbe	r: NORTHEAST DRINKARD	UNIT No. 606	
*	Operator: APACHE	CORP		/
	3002506590	F -15-21S-37E	1980 FNL & 1880 FWL	1/
_	Well Name & Number	r: NORTHEAST DRINKARD	UNIT No. 608	
4	Operator: APACHE	CORP		

3 Records Found

Displaying Screen 1 of 1

Continue Go Back

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.

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4 Records Found

Displaying Screen 1 of 1

_		API Number	ULSIR	Footages	
***	\bigcirc	3002506586	D -15-21S-37E	660 FNL & 660 FWL /	//
a		Well Name & Number	er: STATE S No. 001		
_		Operator: CHEVRO	ON USAINC		,
穪	\bigcirc	3002506612	D -15-21S-37E	660 FNL & 990 FWL &	
4	_		er: STATE S No. 005		
***		Operator: CHEVRO	ON USAINC		
-	(T)	3002506614	D -15-21S-37E	600 FNL & 990 FWL	
	34	Well Name & Number	er: NORTHEAST DRINKARD U	INIT No. 601	
礦		Operator: APACHE	CORP		
	\bigcirc	3002536809	D -15-21S-37E	130 FNL & 330 FWL	ν
48	Same?		er: NORTHEAST DRINKARD U		
		Operator: APACHE			
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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 I	Found
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Displaying Screen 1 of 1

		API Number	ULSTR	Footages
~	\circ	3002506591	E -15-21S-37E	2310 FNL & 990 FWL V
		Well Name & Number: NO	RTHEAST DRINKARD UN	
		Operator: APACHE CORF		
	0	3002509913	E -15-21S-37E	3390 FSL & 4520 FEL 🗸
			RTHEAST DRINKARD UN	
48)		Operator: SHELL WESTE	RN E & P INC	/
تعند	()	3002509914	E -15-21S-37E	1980 FNL & 660 FWL
-	~	Well Name & Number: NO	RTHEAST DRINKARD UN	IT No. 602
400		Operator: APACHE CORF		,
	\bigcirc	3002533547	E -15-21S-37E	1340 FNL & 330 FWL
	`~'	Well Name & Number: STA	ATE No. 001	
الس		Operator: KEY ENERGY	SERVICES, LLC	
_	<u>(</u> _)	3002535271	E -15-21S-37E	2580 FNL & 1300 FWL
***	\sim		RTHEAST DRINKARD UN	
		Operator: APACHE CORF		
30	\bigcirc	3002537223	E -15-21S-37E	1410 FNL & 380 FWL
اعدد	-		RTHEAST DRINKARD UN	
		Operator: APACHE CORF		
**		- parater : 1, 1 ter : 2 e e 1 1		
	6 Re	ecords Found	Displaying Scre	een 1 of 1

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Go Back

DEC 2011

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.

DÉC 2011

3 Records Found

Displaying Screen 1 of 1

•		API Number	ULSTR	Footages	, /
	0	3002506617	I -16-21S-37E	1980 FSL & 330 FEL	
		Well Name & Number: STA	TE DA No. 005		
		Operator: APACHE CORP	1		
•	\bigcirc	3002506619	I -16-21S-37E	1980 FSL & 660 FEL	W
ŀ		Well Name & Number: WES	ST BLINEBRY DRINKARD	UNIT No. 078	
•		Operator: APACHE CORP			
ı	(¯)	3002537916	I -16-21S-37E	1650 FSL & 780 FEL	1
	*******	Well Name & Number: STA	TE DA No. 013		
•		Operator: APACHE CORP	1		

3 Records Found

Displaying Screen 1 of 1

Continue Go Back

Please select the API Number you wish to view from the list below by clicking the radio button next by

to the API Number. Then click the "Continue" button to see the thumbnails for the API you select
The search results are broken out by groups of 25 on each page. Switching pages can be done
clicking the "Next 25" or "Previous 25" links.
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4 Records Found

Displaying Screen 1 of 1

***	API Number	ULSTR	Footages	/							
• 0	3002506621	H -16-21S-37E	1980 FNL & 660 FEL $ u$								
4	Well Name & Numb	er: WEST BLINEBRY DRINK									
	Operator: APACHE			1							
	3002506624	H -16-21S-37E	2310 FNL & 330 FEL U								
45	Well Name & Numb	er: HARRY LEONARD NCT E	No. 005								
***	Operator: CHEVRO	ON USAINC		, ,							
<u> </u>	3002536741	H -16-21S-37E	1330 FNL & 1070 FEL								
	Well Name & Numb	er: HARRY LEONARD NCT E	No. 007								
44,	Operator: CHEVRON U S A INC										
~	3002537834	H -16-21S-37E	2310 FNL & 1030 FEL	//							
. mage		er: HARRY LEONARD NCT E									
and .	Operator: CHEVRO	ON U S A INC									

4 Records Found

Displaying Screen 1 of 1

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1-13 TO 11-22-83:						
882' W/250 BX CLS C NEW INC INHIB FL. ISOLATED CO 00 BX CLS C NEAT. STUNG INC INHIB FL. PERF 4-WAY	AT CMT. STUNG OUT (G LK BTW 4884' - 4 G OUT OF CICR. LEFT (SHOT # 2876', SET	OF CICR. LI 965'. SET (126' CMT (CICR # 280	EFT 185' OF CMT CICR # 4841'. 80 ON TOP OF CICR. 02'. ESTAB CING 8	ON TOP OF CICR (SZD C8Q LK W/ (TOC @ 4715'.) SWN TBQ & OUT	(TOC ● 5466').	
-1/2 X 8-5/8 ANN. PMPD EFT 83' CMT ON TOP OF G 50'. PERF # 800'. SET D TUNG OUT OF CICR. CMT IT LAPRIER 3' BELOW GL. W/4'	400 SX CLB C CMT, ICR. CIRC CLN. WOC ICR # 750'. CIRC CLE D SURF IN 5-1/2 PRO	UNABLE TO 8 HRS. RU B C CMT TO D CSG. CUT	CIRC TO SURF. 8 IN TEMP SURVEY & SURF STW 5-1/2 IT OFF 5-1/2 IN. V	TUNG OUT OF CIC 1 FOUND TOC 0 2 X 8~5/8 ANN. VELLHEAD. WLD	4 N.	

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1 46808-55747 -11 10 15	HAND SEE BULE 1103. 1-13 TO 11-22-83: MPD 38' CLS C CMT ON TO 182' W/250 BX CLS C NE 180. ATED C 100 SX CLS C NEAT. STURK NC INNES FLL. PERF 4-WA 1-1/2 X 8-5/9 ANN. PMPD DET 83' CMT ON TOP OF CO. PROF 6 800'. SET IN TUNN OUT OF CICA. CMT IN ANGER 3' BELOW GL W/A TELL IS PBA'D.	HAT STO 11-22-83: 1-13 TO 11-22-83: MPD 38' CLS C CMT ON TOP OF CEP # 8698'. MPD 38' CLS C CMT ON TOP OF CEP # 8698'. MPD 38' CLS C CMT ON TOP OF CEP # 8698'. MPD 38' CLS C CMT ON TOP OF CICH. STUNG O' O' O' O' O' O' O' O' O' O' O' O' O'	MPD 38" CLS C CMT ON TOP OF CEP # 6696". SET CICR # 582" W/250 5X CLS C NEAT CMT. STURE QUIT OF CICR. L RC NHSE T. L. ISOLATED CIG LL STW 4934" - 4985". SET DO SX CLS C NEAT. STURE QUIT OF CICR. LEFT 126" CMT RC NHSE FL. PERF 4-W/W SHOT # 2875". SET CICR # 28 -5/2 ANN. PMPD 400 5X CLS C CMT, UNABLE TO ETT 83" CMT ON TOP OF CICR. CIRC CLM. WOC 3 HRS. RIVO. PERF # 300". SET CICR # 35" CMT CLS C CMT TO TURE QUIT OF CICR. CMT CLS C CMT TO TURE QUIT OF CICR. CMT CLS C CMT TO SURF IN 8-1/2 PROD CSQ. CU ANKER 3" BELOW GL. W/5" ABV GL. BACKFILL PIT & CELL. TELL IS PRA*D. THE COMPANY AND THE SELOW GL. W/5" ABV GL. BACKFILL PIT & CELL. MANUER 3" BELOW GL. W/5" ABV GL. BACKFILL PIT & CELL. THE COMPANY AND THE SELOW GL. W/5" ABV GL. BACKFILL PIT & CELL. THE COMPANY AND THE SELOW GL. W/5" ABV GL. BACKFILL PIT & CELL. THE COMPANY AND THE SELOW GL. W/5" ABV GL. BACKFILL PIT & CELL. THE COMPANY AND THE SELOW GL. W/5" ABV GL. BACKFILL PIT & CELL. THE COMPANY AND THE SELOW GL. W/5" ABV GL. BACKFILL PIT & CELL. THE COMPANY AND THE SELOW GL. W/5" ABV GL. BACKFILL PIT & CELL. THE COMPANY AND THE SELOW GL. W/5" ABV GL. BACKFILL PIT & CELL. THE COMPANY AND THE SELOW GL. W/5" ABV GL. BACKFILL PIT & CELL. THE COMPANY AND THE SELOW GL. W/5" ABV GL. BACKFILL PIT & CELL. THE COMPANY AND THE SELOW GL. W/5" ABV GL. BACKFILL PIT & CELL.	HE SER BULLE 1103. 1-13 TO 11-22-83: MPD 38' CLS C CMT ON TOP OF CRP # 6698'. SET CICR # 6681'. SOZZO BLI 182' W/250 SX CLS C NEAT CMT. STURG OUT OF CICR. LEFT 185' OF CMT. NO SX CLS C NEAT. STURG OUT OF CICR. LEFT 185' OF CMT ON TOP OF CICR. NO SX CLS C NEAT. STURG OUT OF CICR. LEFT 185' ONT ON TOP OF CICR. NO SX CLS C NEAT. STURG OUT OF CICR. LEFT 185' ONT ON TOP OF CICR. 1-1/2 X 8-5/8 ARM. PMPD 400 SX CLS C CMT, UNABLE TO CINC TO SURF. 8 EFT 83' CART ON TOP OF CICR. CICR CLN. WOC S NINS. RUN TEMP SURVEY 8 10', PERF # 900'. SET CICR # 780'. CRC CLS C CMT TO SURF SINYEY NINS. TURES OUT OF CICR. CAIT TO SURF IN 5-1/2 PROD CSQ. CUT OFF 5-1/2 IN. VANCER 3' BELOW GL W/\$' ABV GL. BACKFEL PIT & CELLAR. CUT OFF DEAL FILL 16 PSA'D. THAT THE CONTROL OF CONTR	1-13 TO 11-22-83: In-13 TO 11-22-83: IN-D 38' CLS C CMT ON TOP OF CISP # 6898', SET CICR # 5681', SOZD BLINEBRY PERFS 57: 182' W/250 SX CLS C NEAT CMT. STUNG OUT OF CICR. LEFT 195' OF CMT ON TOP OF CICR. IN INHIB FL. ISOLATED CMG LK BTW 4934' - 49898', SET CICR # 4941', SOZD CSQ LK W/ NO SX CLS C NEAT. STUNG OUT OF CICR. LEFT 125' CMT ON TOP OF CICR. (TOC # 7195',) NO THEME FL. PERF 4-WIT SHOT # 2575', SET CICR # 2900', ESTAS GORC DWN TRG A OUT -1/2 X 8-5/8 ANN. PMPD 400 SX CLS C CMT, UMABLE TO CIRC TO SURF. STUNG OUT OF CICR EFT 83' CAIT ON TOP OF CICR. CIRC CLN. WOO'S HRS. RUN TEMP SURVEY # FOUND TOC CICR. FOR PERF # 300', SET DICR # 750', CINC CLS C CMT TO SURF BTW 5-1/2 X 8-5/8 ANN. FUNG OUT OF CICR. CMT TO SURF IN 5-1/2 PROD CSG. CUT OFF 5-1/2 IN. WELLHEAD. WLD. ANKER 3' BELLOW GL W/\$' ABY GL. BACKOPILL PIT & CELLAR. CUT OFF DEADMAN BELOW GL. INDICATE WARLS AND AND AND AND AND AND AND AND AND AND	In-13 TO 11-22-83: MPD 38' CLS C CMT ON TOP OF CBP # 8898'. SET CICR # 5681'. SQZD BLINEBRY PERFS 5715' - 182' W/280 SX CLS C NEAT CMT. STUNG OUT OF CICR. LEFT 185' OF CMT ON TOP OF CICR (TOC # 5466'). NO NAME FL. ISOLATED CRG LIK STW 4934' - 4985'. SET CICR # 4941'. SQZD CBG LIK W/ NO SX CLS C NEAT. STURB OUT OF CICR. LEFT 126' CMT ON TOP OF CICR. (TOC # 4716'.) NO INMS FL. PERF 4-WAY SHOT # 2875''. SET CICR # 2802''. SET SICR CHOWN TSG & CUT - 1/2 X 8-675 AMPN. PMPD 400 SX CLS C CMT, LURABLE TO CRC TO SURF. STURB OUT OF CICR. DET 53' CAIT ON TOP OF CICR. CRC CLN. WOC S HYS. RUN TEMP SURVEY & FOUND TOC # SOV. PERF 8 900''. SET CICR # 750''. CRC CLS C CMT TO SURF STW 8-1/2 X 8-48. FUNG OUT OF CICR. CMT TO SURF IN 8-1/2 PROD CSG. CUT OFF 5-1/2 IN. WELLHEAD. WLD 4 IN. NINKER 3' BELDW CL W/* ABV CL. BACKFILL PIT & CELLAR. CUT OFF DEADMAN SELOW GL. SECTION AND COMPANY OF

Submit 3 Copies To Appropriate District Office State of New Mexico	Form C-103
District I 1625 N French Dr., Hobbs, No. 1	WELL API NO.
District II 1301 W Grand Ave , Artesta, NM 88210 OIL CONSERVATION DIVISION	30-025-06586
DSINGLIII 1000 Rao Brezos Rd , Aziec, NM 874 AUG 1 4 70731220 South St. Francis Dr.	5. Indicate Type of Lease STATE FEE
1000 Rs Brazos Rd, Aziec, NM 87410000 Datine LTV 1220 S S. Francis Dr , Sam Fel MBBS OF The NM 87505	6. State Oil & Gas Lease No.
SUNDRY NOTICES AND REPORTS ON WELLS	7. Lease Name or Unit Agreement Name
(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	STATES /
PROPOSALS) 1. Type of Well; Oil Well Gas Well Other	8. Well Number 1
2. Name of Operator	9. OGRID Number 4323
CHEVRON 3. Address of Operator	10. Pool name or Wildcat
15 SMITH ROAD, MIDLAND, TEXAS 79705	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 NMPN	
11. Elevation (Show whether DR, RKB, RT, GR, e 3462'	tc.)
12. Check Appropriate Box to Indicate Nature of Notice	e, Report or Other Data
	BSEQUENT REPORT OF:
PERFORM REMEDIAL WORK PLUG AND ABANDON REMEDIAL WORK TEMPORARILY ABANDON CHANGE PLANS COMMENCE OF	
TEMPORARILY ABANDON	PRILLING OPNS. P AND A
DOWNHOLE COMMINGLE	505
OTHER: ACI	DIZE & 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: or recompletion.	Attach wellbore diagram of proposed completion
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 P	
08-06-08: PKR WOULD NOT SET. COLLAR ABOVE PKR IS SPLIT. TIH W/NEW	
PKR. TIH W/PKR TO 3672 & SET. PMP 105 BBLS SCALE INHIB. 08-07-08; REL 08-08-08; RUN PMP & RODS. RIG DOWN. FINAL REPORT	PKR. 11H W/2 1/8" 1BG. EO1 @ 4032,
Spud Date: 07-30-08 Rig Release Date: 8	-08-08
075000	08-00
I hereby certify that the information above is true and complete to the best of my knowle	dge and belief.
$A \cap A$	
SIGNATURE WILL THE REGULATORY SPEC	CIALIST DATE 08-11-2008
Type or print name DENISE PINKERTON E-mail address: leakeid@chevr	on.com PHONE: 432-687-7375 AUG 1 8 2008
For State Use Only	AUG 18 2008
	MERAL MUNICEDATE
Conditions of Approval (if any):	

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State of New Mexico Form C-I State of New Mexico Revised Feb. 26, 200 Sincial University Mexico Revised Feb. 26, 200 Si															
	histin III Submit to Appropriate District Offic														
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Printed name: Amber Cooks	,	-		***			Title:	PET	MOLEU	W EN	GINE	BH			
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Date: 10/22/2009				ne: 3.491.496	38		1								
			1211					-					-		

	.9~	State of New I	Mexico ~	b	
Submit 3 copies to Appropriate District Office	(argy, M	linerals and Natural R	esources Departmen	Form (-103 d 1-1-89
DISTRICT I	OTT CC	NEEDVATI	ON DIVISION		u 1-1-05
P.O. Box 1980, Hobbs, NM	1 88240 OIL CC			WELL API NO.	
DISTRICT II	Con	P.O. Box 206 ta Fe, New Mexic		30 025 06612	
P.O. Box Drawer DD, Artes	is, NM 88210 San	ta re, New Mexic	0 8/504-2088	5. Indicate Type of Lease STATE	FEE 🗍
DISTRICT III				6. State Oil / Gas Lease No.	
1000 Rio Brazos Rd., Aztec		DEDODTE ON ME		8-9188	i i dojakove
	INDRY NOTICES AND I IM FOR PROPOSALS TO (7. Lesse Name or Unit Agreement Name	
DIFFE	RENT RESERVOIR. USE ' (FORM C-101) FOR SI		PERMIT	STATE S	
1. Type of Well; OIL	GAS -	JOH PROPOSALS.)			
WELL	WELL OTH	IER			
2. Name of Operator	TEXACO EXPLORATION 8	PRODUCTION INC		8. Well No.	
2 Address of Occurren				9. Pool Name or Wildost	
3. Address of Operator	P.O. BOX 730, HOBBS, NA	A 88240		Penrose Skelly Grayburg	
4. Well Location					
Unit Letter	D : 660 F	Feet From The <u>NOR</u>	TH_Line and 990	Feet From The WEST Line	
Section 15	Township	21\$F	Range 37E N	MPMLEA_COUNTY	
	10. Elevation	n (Show whether DF, Ri	KB, RT,GR, etc.) 3450' KB		
11.	Chack Anomorista E	lov to Indicate Na		t or Other Date	
		OUX TO INDICATE IVA	ture of Notice, Repor		
NOTICE OF I	NTENTION TO:	_	S	UBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK	PLUG AND AB	ANDON	REMEDIAL WORK	ALTERING CASING	
TEMPORARILY ABANDON	CHANGE PLAN	vs 🔲	COMMENCE DRILLING OP	<u></u>	
PULL OR ALTER CASING		_	CASING TEST AND CEME		-
OTHER:		브	OTHER:	Recompletion	🛛
Objective: Abandon Drinkard 1) Set 5 1/2" CIBP w/35' cert 2) Perf 5 1/2" casing w/8 SPI 3) Acidize perfs w/1550 gal 1 4) Ran 2 3/8" tubing w/5 1/2" 5) 04/06/94: Flow 1 oil, 108 w	nent cap - New PBTD=6395' F 3841-51' (80 holes) 5% NEFE packer set @ 3781'				
TYPE OR PRINT NAME This space for State Used APPROVED BY	e in true and complete to the best of my l	TITLE Engli	neering Assistant AL SIGNED BY JERRY DISTRICT I SUPERIVISO		

DeSote/Nichols 12-93 ver 1.0

DISTRICT (P.O. Box 1980, Hobbs, NM 88241-1980 DISTRICT ()

3/18/94

23/64

40 Choke Size

03/17/94

Oil - Bbls.

1

46 I hereby certify that the rules and regulations of the Oil Conservation

04/07/94

108

42 Water - Bbls.

24 HR

626

43 Gas - MCF

210

OIL CONSERVATION DIVISION

45 Test Method

44 AOF

State of New Mexico Energy, Minerals and Natural Resources Department

Form C-104
Revised February 10,1994
Instructions on back
Submit to Appropriate District Office
5 Copies

DISTRICT III	er DD, Arte	sia, NM 8821	1-0719	OIL C	UN		ATION	DIV	ISION	Submit	to Appropriat	e District Office
1000 Rio Braz	os Rd., Azte	c, NM 87410		Ç.	-4- E	P.O. Bo		04.00	00			5 Copies
DISTRICT IV	Santa Fa	NM 87604-201	90	58	ma r	e, New I	Mexico 875	04-20	88		AMEND	ED REPORT
].	, senia re,			R ALLO	NAB	LE AND	AUTHORIZ	ZATIO	N TO TRANS	SPORT		
			erator Name							OGRID N		
TEXACO EX	PLORATIO	N & PRODU									2351	
P.O. BOX 73	30, HOBBS	NM 88240							3	Reason fo	or Filing Code	······································
											RC	
	Number 025 06612					⁵ Pool N	lame telly Grayburg				1	ol Code 50350
⁷ P	roperty Code 011110	•				•	rty Name ATE S				* w	/ell No. 5
II. 10 Surfac	e Locatio	n										
Ul or lot no.	Section	Township	Range	Lot.ldn	Fee	t From The	North/Sou	th Line	Feet From The	Eas	West Line	County
D	15	218	37E			660	NORT	TH	990		WEST	LEA
11 Bottor	n Hole Lo	cation										
UI or lot no.	Section	Township	Range	Lot.ldn	Fee	t From The	North/Sou	th Line	Feet From The	Eas	t/West Line	County
		-										
12 Lse Code S	13 Producir	Method Cod F	1	nection Date 1/15/94	14	C-129 Perm	nit Number	18	C-129 Effective D	ate	¹⁷ C-129	Expiration Date
III. Oil and	d Gas Tra	nsporters										
18 Transpor		19 T	ransporter Na and Address			20 PC)D 2	0/3			OD ULSTR Lo	
022628			NM PIPELIN			2471	1910	0			21S 37E	
		PO BOX 2	528, HOBBS	, NM 88240								
022345		TE	XACO E & P	INC		247	1930	G		D 15	21S 37E	
		PO BOX 3	000, TULSA,	OK 74102]		<u></u>			
IV. Produc												
	POD					24 P	OD ULSTR Loc	ation an	d Description			***************************************
	471950						C 15	218 37	re			
	ompletion										Y	
²⁵ s	pud Date		26 Ready Dat	1		²⁷ Total D			28 PBTD			rforations
30	HOLE SIZE		3/18/94	SING & TUBI	10 617	8148		EPTH SI	6395 ET		33 SACKS CE	841-51
17 1/2*	HOLE SIZE		13 3/8"	SING & TODA	10 312		294'	CF IN S	51	300	SACKS CE	:MEN I
11"			8 5/8"				2074'	······································		2000		
6 3/4"			6 1/2"				B147'			500		
VI. Well To	est Data											
34 Date N	lew Oil	36 Ges De	livery Date	36 Da	te of T	lest	37 Length o	f Test	38 Tubing	Pressure	36 Ce	sing Pressure

Signature Printed Name Larr Title Engineering As	y W. Johnson		Approved By:ORIG Title: Approval Date:	INAL SIGNED BY JERRY SEXTO DISTRICT I SUPERVISOR APR 13 1994	N
	Telephoi or fill in the OGRID number and n Operator Signature			Title	Date
FIGNOS	Operator Signature	Times (value		DeBotoAldroide 11	

Submit to Appropriate

DeSotoMohale 12-83 ver 1.8

District Office State Lease 6 copies	Ene	rgy, Minerals and Natural	Resources	Department			Form C-101 Revised 1-1-89
Lee Lease - 3 copies DISTRICT I	OIX	CONCEDUAT		TATELONI I	····		7/64/3CU 1-1-03
P.O. Box 1980, Hobbs,	NM 88240 UIL	CONSERVAT		IAISION	WELL API NO.		
DISTRICT II		P.O. Box 20				30 025 06	612
PO Box Drawer DD, A	rtesia, NM 88210	Santa Fe, New Mexi	co 8750	1-2088	5. Indicate Type	of Lease	ATE T FEE
DISTRICT III							AIE N PEE [
1000 Rio Brazos Rd., A	ztec, NM 87410				6. State Oil / Gat	s Lesse No.	B-9188
A	PPLICATION FOR PERMIT	TO DRILL, DEEPEN, OR	PLUG BA	CK		en en en en en en en en en en en en en e	
1a. Type of Work: C	RILL RE-ENTER	DEEPEN	PLUG BA	ck 🖾	7. Lease Name		ment Name
b. Type of Well:	ت.	SINGLE	Ø N	ULTIPLE	STATE S		
OIL 📝 GAS	□ oruse	ZONE	_ z	ONE			
WELL WELL 2. Name of Operator	OTHER				8. Well No.		
2. Homo or operator	TEXACO EXPLORAT	ION & PRODUCTION INC	•			5	
3 Address of Operator	P.O. BOX 730, HOBB	S, NM 88240			9. Pool Name oc		GRAYBURG
4. Well Location		· · · · · · · · · · · · · · · · · · ·					
Unit Lette	er <u>D</u> : <u>660</u>	Feet From TheNO			_Feet From Th		Line
Section _	15 Towns	hip 218	Range	37ENM	PM	<u> </u>	A COUNTY
	10. Pr	oposed Depth 6395'		11. Formation GRAYBURG	and the second second	12. R	cotary or C.T.
13. Elevations (Show whet	her DF, RT, GR, etc.)	14. Kind and Status Plug Bond)	15. Drilling Contract	or	16. Approx.	Date Work will start
3459' KB		-	·	-		3/10/94	
17.		PROPOSED CASING	AND CE	MENT PROGRA	M		
SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SET	TING DEPTH	SACKS OF C	EMENT	EST. TOP
17 1/2"	13 3/8"	36#	294'		300		CIRC
11"	8 5/8"	248	2974		2000		CIRC
6 3/4"	5 1/2"	15.5 & 17#	8147		500		2670'
	1500 gals 15% NEFE acid. perfs with 33,000 gals gel & action and test.	110,000 lbs 16/30 sand.			EFF. DATI		9-94 25-DE61
	a. Sunha	my Incursing and belot. TITLE Pro			PRESENT PRODUCTIV	DATE	3/7/94
(Thus upace for State Use)		ORIG	INAL SIG	NED BY JERRY	SEXTON		
APPROVED BY		TITLE		CT I SUPERVISO		DATE	
CONDITIONS OF APPE	ROVAL, IF ANY:	7.17.66					Notes 1243 ver 1.0

3		EW T CO	Santa Fe, New 1		, MON	1951
وعنصوبهم وسور			•		- 1 680	COMMISSION
	PATTERN AND THE P		OF INTENTIO		· · · · · · · · · · · · · · · · · · ·	MATOR
turned to	the sender. S	the Oil Conservation proposed plan are ending this notice in Regulations of the	i uriblicate. Une d	its proper agent le, a copy of thi	and approved obtains a notice showing appro-	ch changes will be val. See additional
			Houston	, Texas	J	anuary 31, 198
L CONSE	RVATION CO	MMISSION,	l'la	00		Date
	ew Mexico,					
entlemen:	bozahu w	atified that it is an	= intention to con	nmanes the drill	ing of a well to be l	mown se
	-	inted Cil Comp			fell No. 5	
	Compan	y or Operator		Lease		
Sec. 15	, T				Field, Lea	
	*				N line ar ion 15, 218, 3	
		(Give id	cation from secu	on or other leg	al subdivision lines.	Cross out wrong
-1++	++++	If state land	the oil and gas le	ease is No. B-9	188 Assignment	No
+++	+ + +	If patented	land the owner is			
	1 1 1 1	Address				
		If governme	nt land the perm	ittee is		
		Address			A 0.13 O	
		The lessee is.			d Oil Company	
AREA	640 ACRES	Address		Houston 1		**
	LL COBBECTL	We propose t	to drill well with d	irilling equipmen	t as follows: Rota	
DCATE WE						
	of a bond for	Rishkat Bond	ormance with Ku Antod Nov. 30	le sy of the G	eneral Rules and E h Saint Paul-M	egulations of the ercury Ind. Co
a status (
ne status o		wing strings of cas				
ne status o mmission e propose	to use the folk	owing strings of cas		1	Tondad as	7
e status o		Weight Per Foot	Now or Second Hand	Depth	Landed or Commissed	Facits Coments
e status ommission e propose Sise of Hole	to use the folk	I	New or	1		
ommission o propose Size of Hele	Size of Casing	Weight Per Foot	New or Second Hand	Depth	Commented	Coment
mmission e propose Size of Hote	Size of Casing	Weight Per Foot	New or Second Hand	Depth 280	Commented	Comens 300
mmission e propose Size of Hote 17 1/2* 11* 5 3/4*	Size of Casing 13 3/8" 5 5/8" 5 1/8"	Weight Per Foot 36# 24# and 38# 17#	Now or Second Hand New New New	2800 1 7800 1	Commented Commented	300 2000 500

Approved, 19	Sincerely yours,
except as follows:	Tide Water Associated Oil Company
	Company or Operator
	By Jees
	Position J. B. Holloway Authorized Employe
OIL CONSERVATION COMMISSION,	Send communications regarding well to
By Val 4 Eigh Gerily R	Name J. E. Springer, c/o Tide "ater Assoc
Title Of State Inscretor	Oil Company, Address Midland, Texas

Submit 3 Copies To Appropriate District Office	State of New Mex Energy, Minerals and Natura		Form C-103 May 27, 2004
District 1 1625 N French Dr., Hobbs, NM 88240	•••	zi Resources	WELL API NO.
District III District III District III	OIL CONSERVATION	DIVISION	30-025-06614 7
District III	A 2011 1220 South St. France	is Dr.	5. Indicate Type of Lease STATE FEE
1000 Rio Brazos Rd , Aztec, NM 87417 2	Santa Fe, NM 875	505	6. State Oil & Gas Lease No.
1220 S St Francis Dr , Santa Fe, NM 87505			BD-9188
SUNDRY NO (CO) (DO NOT USE THIS FORM FOR PROPOSAL DIFFERENT RESERVOIR. USE "APPLICA"			7. Lease Name or Unit Agreement Name Northeast Drinkard Unit
PROPOSALS)	HON FOR PERMIT (FORM C-101) FOR	SUCH	8. Weil Number
	as Well Other /		601
2. Name of Operator Apache Corpo	ration /		9. OGRID Number
3. Address of Operator		***	10. Pool name or Wildcat
303 Veterans Airpark Lane, Ste	. 3000, Midland, TX 79705		Eunice, Blinebry-Tubb-Drinkard, N.
4. Well Location			
Unit Letter D : 600	feet from the N line and		rom the W line
Section 15 Township	21S Range 37E 11. Elevation (Show whether DR, I	NMPM	County Lea
	3459' GR		
Pit or Below-grade Tank Application 🗖 or C	losure 🔲		
Pit typeDepth to Groundwater	Distance from nearest fresh water	r well Distance	from nearest surface water_N/A
Pit Liner Thickness: mil E	Selow-Grade Tank: Volume	bbls; Constru	action Material
12. Check Ap	propriate Box to Indicate Na	ture of Notice,	Report or Other Data
NOTICE OF INT	ENTION TO:	SU	BSEQUENT REPORT OF:
PERFORM REMEDIAL WORK	PLUG AND ABANDON	REMEDIAL WOR	
TEMPORARILY ABANDON	CHANGE PLANS	COMMENCE DR	RILLING OPNS. P AND A /
PULL OR ALTER CASING	MULTIPLE COMPL	CASING/CEMEN	AT JOB 🗆
OTHER: drill out & add Plugs		OTHER:	
			d give pertinent dates, including estimated date
of starting any proposed work or recompletion.). SEE RULE 1103. For Multiple	Completions: Att	tach wellbore diagram of proposed completion
eristing CI	EP		Approved for plugging of well bors only.
10/10/11 Tag TOC @ 5,620"			Liebeller under hand is you should not be
10/11/11 Tbg @ 5,620' - Circ hole	w/MLF Tost org _ OV	,	of C-103 (Subsequent Report of Well Plugging) which may be found at OCD Web Page under
10/11/11 Tbg @ 5,620' - Circ hole Spot 50sx cmt @ 5,620'	DISPINCE & to	5113.	Forms, www.cmnrd.state.nm.us.ocd.
5 , 200 000 000 000 000 000 000 000 000 00		0/2 % cac	<u> </u>
10/12/11 Perf @ 4,032' unable to Perf @ 3,040' unable to	Sqz. Tbg @ 4,082' - Spot 25sx' Sqz. Tbg @ 3,090' - Spot 25sx'	cmt - Tag @ 2,74	o, Spot 40 St cmt.
10/13/11 Tbg @ 2,246' - Spot 25st	TIH open ended - come No tag der	TOCO M	lark WhitaKer
Tbg @ 1,306' - Spot 25s	cent No tag fer	Sed aga	in
Tbg @ 400' - Spot 25sx (cint - Tag @ 200'	+050 W	H, ounchors, clean
lessation T	nstall dry hole	K a	R, bonotonia, branch
المارين المارين	TILL ATT HOLE	marke	, r ·
			e and belief. I further certify that any pit or below- or an (attached) alternative OCD-approved plan
SIGNATURE	TITLE P&ATe	chnician (B	asic Energy Services) DATE 10-18-11
SIGNATURE	THE TAX I	(Di	ask Energy Services) DATE 10-10-11
Type or print name: Greg Bryant For State Use Only	E-mail address:		Telephone No. 432-563-3355
APPROVED BY	TITLE S	not ne	DATE 0-25-7011
Conditions of Approval (If any):	IIILE	7100 1. 9	DATE 0-25-2011 OCT 2 5 2011
/ ()			V 0 C 2011
			\ 001 \le 5 \ 2011
			·

Submit 3 Copies To Appropriate District Office	State of New Mex			Form C-103
District I	Energy, Minerals and Natur	ral Resources	WELL API NO.	May 27, 2004
1625 N. French Dr., Hobbs, NM 88240 District II	on conservation	DE WOLON	WELL AT INO.	30-025-06614
1301 W. Grand Ave., Artesia, NM 88210 District III	OIL CONSERVATION		5. Indicate Type	
1000 Rio Brazos Rd., Aztec, NM 87410	1220 South St. Fran		STATE	
<u>District IV</u> 1220 S. St. Francis Dr., Santa Fe, NM	Santa Fe, NM 87	303	6. State Oil & Ga	as Lease No.
87505				
SUNDRY NOTION (DO NOT USE THIS FORM FOR PROPOSE DIFFERENT RESERVOIR, USE "APPLION OF THE PROPERTY OF THE PRO	CES AND REPORTS ON WELLS ALS TO DRILL OR TO DEEPEN OR PLU ACTION FOR PERMIT (BORM C-101) BO	IG BACK TO A	7. Lease Name of Northeast Drinks	or Unit Agreement Name and Unit
PROPOSALS.)			8. Well Number	(0)
	Gas Well Other			601
2. Name of Operator Apache Corpo	oration		9. OGRID Numl	00873
	h Yale, Suite 1500		10. Pool name or	r Wildcat
Tulsa, OK	74136-4224		Eunice Blinebry	y - Tubb - Drinkard - North
4. Well Location				
Unit Letter D :	660 feet from the South	line and _990	feet fro	om the West line
Section 15		nge 37E	NMPM	CountyLea
	11. Elevation (Show whether DR, 3459' GR	RKB, RT, GR, etc.)		
Pit or Below-grade Tank Application of			tag	and the second s
Pit type Depth to Groundwa		ater well Dista	nce from nearest sur	face water
Pit Liner Thickness: mil	Below-Grade Tank: Volume		astruction Material	
				Data
12. Check A	Appropriate Box to Indicate N	ature of Notice, I	keport or Other	Data
NOTICE OF IN	TENTION TO:	SUBS	SEQUENT RE	PORT OF:
PERFORM REMEDIAL WORK	PLUG AND ABANDON	REMEDIAL WORK	_	ALTERING CASING [
TEMPORARILY ABANDON	CHANGE PLANS	COMMENCE DRIL		P AND A
PULL OR ALTER CASING	MULTIPLE COMPL	CASING/CEMENT	JOB 🖾	
OTHER:		OTHER:		
	leted operations. (Clearly state all p			
of starting any proposed we or recompletion.	rk). SEE RULE 1103. For Multipl	le Completions: Att	ach wellbore diag	ram of proposed completion
Isolate 5-1/2" casing leak, 4942' - 49	074' TOC @ 5380' ner CRI Perf	5360' set retainer @	5007' Squeeze u	rith 125 ex Clace C
Pulled out of retainer. Set cmt retain	ner @ 4880'. Squeeze casing leak wi	ith 350 sxs Class C.	Set packer @ 532	2'. Test squeeze to 500
psi. Did not hold. Test backside to 5	500 psi, held ok. Set retainer @ 532	0' and squeeze with	50 sx Class C w/ 0	CaCl + 150 sx Class C
Neat. Test squeeze ok. Acidize Blin production.	ebry/Tubb with 5200 gals 15% HC	L. Acidize Drinkard	with 3000 gals 15	% HCl. Return to
production.			1500	
			(8)	- 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.
			2002 NA	
			15 S	2.88
			\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	〕 □
			15	4 §/
			1.0	√ [®]
			0000	
The state of the s			11 11 6	
I hereby certify that the information grade tank has been/will beconstructed or				
Le la				
SIGNATURE (STATE)	AUG TITLE Eng	gineering Technician	1	_DATE 01/12/2005
Type or print name Elaine Linton	E-mail ad	dress:elaine.linton@	apachecoro.com	elephone No. (918)491-5362
For State Use Only	. [•	
4) () BOC FIELD REPRES	ENTATIVE IJSTAF	F MANAGER	
APPROVED BY: Conditions of Approval (if and):	TITLE			DATE
				JAN 1 4 2005

		•					:			
Product			State	a of New Mex	rico					Form C-104
Cistrict I P.O. Box 1980, Hobbs, I	NM 88241-1980	Energy, I	4		sources Departme	nt			Revised	February 10, 1994
District II		•			•					sturctions on back
P.O.Drawer DD, Artesia, Diebrict R		OIL C		RVATION O. Box 2080	N DIVISION				Subrail to Approp	riate District Office 6 Copies
1000 Rio Brazos Rd., Az	dec, NM 87410								1	
District IV P.O. Box 2008, Senta Fe	- MM 87504-2088								AMEND	DED REPORT
1		UEST FOR ALL	OWABL	E AND AL	ITHORIZATIO	N TO	TRANSP	ORT		
Operator name and	d Address	JEGI TOTT	.OIIA	- MIN NO	711101112 1112	7,-	OGRED Humbs			
Apache Col	rporation Oak Blvd, St	-4a 100				-	000873 Reason for FW			
	X 77056-44							etive 8/1/199	8	
API Number		Pool Name	Tubb	Drinkard	No.4L		T	Pool Code 22900		
30-025-066 Property Code	/14	* Property Hame	ibry-Tubb-	-Dilikaru-	Norun			, 22900		
22503		Northeast D	rinkard Ur	nit				601		
UI or lot no.	" Surface L	ocation Township	Range	Lot. iden	Feet from the	North	vSouth line	Fast from the	Exet/West line	County
D	15		37E		660	s		990		Lea
		ole Location		t and below	Feet from the		b I	2	Taranta and Bara	
Ut or tot no.	Section	Township	Range	Lot Idn	Feet from the	Notus	/South line	Feet from the	East/West fine	County
17 Lee Code	19 Produck	ng Method Code	14 Gas Con	nnection Date	8 C-129 Permit Number	• " "	29 Effective Da	ate "	C-129 Exp	piration Date
S I		P	<u> </u>							
111.		³⁰ Transporter Hame			* POD	[∦] O∕G	I	22 POD ULSTR		
037480	FOTT En	ergy Pipeline Li	P		2264710	-	A. Sec 2	and Deemptic 2, T21S-R37		——
	PO Box 4		,					entral Batte		
	Houston,	TX 77210-466	6							
024650	Warren P	etroleum			2264730	G				
	P O Box 1						l			
022628	Tulsa, OK	74102 w Mexico Pipel	The Co		2264710	0				
022020	P O Box 5		ine Co		2207/10	Ŭ				
	Denver, C	00 80217-5578	8				İ			
020809	Sid Richa	rdson Gasoline	Co.		2264730	G				
		St., Suite 3000	,							
IV Produced V		TX 76102					L			
" POO	Valei			POD ULSTR	Location and Description	,				
2264750	A, Sec 2,	T21S-R37E								
V. Well Comp	letion Data	3 Ready Dete		מו ינ	7	PBTD			Perforations	
. Spirite		" Result Com		. 10		7010				
39 Hz	olo Steo		Casing & Tubing	g Size	19	Depth S	4	23	Sacks Cement	
					+					
Vi Well Test D)ata									
Dete New Oil		Delivery Date	и те	est Date	37 Test Length	T	Tbg. Press	ure s	Cag. F	Pressure
40 Choke Size	41	Dil	a v	Water	43 Gas	1	AOF	-	Yest	Method P
* I hamby curtify the	the rules of the O	H Conservation Division t	have been comp			OIL	CONSER	VATION DIV	VISION	
		e true and complete to th				-				
Stoneture La	194	6. yel			Approved by:	ORIO		GNED BY		
Printed Hame:	Ma FFI	Light			Title:		GARY V	EP II		
Pamela M.					Approval Date: S	FP	2 4 199	3		
Regulatory Date:	Analyst	Phone:								
9/4/98		713-296-71	20							
47 If this is a change	of operator fill in the	e OGRIO number and re	sme of the provid	tue operator						
	Previous Operator	Signature:		***	Printed Name			Title		Date

OIL CONSERVATION COMMISSION Santa Fe, New Mexico

REQUEST FOR (OIL)-(GAS) ALLOWABLE

It is necessary that this form be submitted by the operator before an initial allowable will be assigned to any completed oil or gas well. Form C-100 (Certificate of Compliance and Authorization to Transport Oil) will not be approved until Form C-104 is filed with the Commission. Form C-104 is to be submitted in triplicate to the office to which Form C-101 was sent. Two copies will be retained there and the other submitted to the Proration Office, Hobbs. New Mexico. The allowable will be assigned effective 7:00 a.m. on date of completion, provided completion report is filed during month of completion. The completion date shall be that date in the case of an oil well when oil is delivered into the stock tanks. Gas must be reported on 15.025 P.B. at 600 Fahrenheit.

ax 547, Hobbs, New	Hardeo Place	May 1 1952
ARE HEREBY REQUESTION	NG AN ALLOWABLE FOR A WELL I	KNOWN AS:
Company or Ope	rator Lease	tell No. 7 in 27 1/4 1 1/4
16 m 21	-S D	Pool Lee Com
1 100	IN THE STATE OF TH	COIN
ase indicate location	on: Elevation ' * sant Si	oudded 2 20 52 Completed 1 27 52
		•
	Total Depth	P.B.
1	Top 011/Gas Pay 70441	Top hater Pay
	Initial Production Tes	Top Water Pay t: Pump Flow 237-71 (ROPD on
:		1 in 161/4 Urs Mi
		gauge, provos cuios run):
	1	30/66"
		/ 8 1
	Pressures: Tubing	5 paige Casing Packer set © 79
'	Gas Gil Ratio 1076	6 Ast Gravity 43.20 A.T.
	Cas	ing Perforations:
	79881 to 40661	
ir letter:p	Acid Record:	Show of Dil.Gas and wate
ing > Cementing Reco	7000 / 700	
ize Feet Sax	Gals to	
	4.1.	8/
3 3/4 293 500	Shooting Record.	e -
8 5/8 2990 1700	1	S/
0 3/0 2330 TIM	- Uts to	5/
5 1/2 8042 350	. :	S/
	Natural Production Test	None House
2" hung in 8-5/8"		: Pumping 237.71 Flow
eeg. 6 28471)	_	21012
ase indicate below I	formation Tops (in conformance	e with geographical section of sta
Souther	astern New Mexico	Northwestern New Mexico

Anhy	T. Devonian	
sal t	T. Silurian	
Salt Sates	T. Montoya	
7 Hivers	T. Simpson 73691	T. Cliff House
Gueen	T. McKee 75761	T. Venefee
	I. Ur. Masii	1. POINT DORON
		T. Mancos
Grayburg		
Grayburg Sun Andres	T	
Grayburg San Andres 39821 Glorieta 5381 Drinkard 65571	T.	T. Morrison
Grayburg San Andres Glorieta Glorieta Grinkard Tubbs G1551	T. Connell 79031	T. Morrison T. Penn
Grayburg San Andres 39821 Glorieta Drinkard 65571	T.	T. Morrison T. Penn

SIZE OF	SIZE OF		NO. BACKS OF CEMENT	ACCOUNTANT TIONS			
HOLE	CASING	WHERE SI		METHODS USED	MUD GE		OUNT OF MUD USED
174"	13-3/8 8-5/8	293	300 2000	Halliburton	na tiv Kativ		
		299 0					
6-3/4		8142	350 nung in 8-5/6"		9.34/	ijal.	
	(54	Liner	min 11 9-2/9.	ensing 2847	T /		-
	•			LUGS AND ADAF			
_	-						• · · · · · · · · · · · · · · · · · · ·
dapters	- Mater	ia]		·····	Size	***************************************	······································
		•	RECORD OF SH	OOTING OR CHI	MICAL TREA	ATMENT	
SIZE	SHEL	L USED	EXPLOSIVE OR CHEMICAL USED	QUANTITY	DATE	DEPTH SHOT OR TREATED	DEPTH CLEANED OUT
			15% Regular Aci	d 5000 gals	4-26-52	7988 - 8056	
					(perf. i	n 52" liner)	
			cal treatment	natural prod	action bef	ore acid tree	tment, well
			owing treatment				***************************************
TTOWN	ב פנג ב	AD LULL	OUTIE OF OCTAMONA		***************************************		
rut to produce the produce of the pr	roducingiuction of ;bil, cu. ft. p	4-27 the first 24% wat	hours was237	PRODUCTION 19 52 17 barrels 8 sediment. Gravi	of fluid of whi	ich 100 %	was oil;
	1) A	nut cot	_	EMPLOYEES		D D-1-1-4	
	He de		A	, Driller			, Drille
************	В. л.	Gaston		, Driller			, Drille
			FORMATIO	ON RECORD ON	OTHER SID	E	
hereby	swear or a	ffirm that	the information giver	herewith is a com	plete and corr	ect record of the w	ell and all work done o
so far	as can be	determined	from available recor	ds.			
lubscribe	ed and swo	orn to befor	e me this 19		tox 547 =	Hobbs, New M	exico5-16-52
ay of	211	ay		19.57 Nam	ostelle R	٠,	Shackelford
	01	st.	Andrea			strict Forem	B
		1,00	Notary Pu	blic Rep			ojated Oil Co.
	nission exp	ires	^{ে এলপ্রথর} স , 1955				New dend co

NEW MEXICO OIL CONSERVATION CC. MISSION

MISCELLANEOUS REPORTS ON WELLS

Submit this report in triplicate to the Oil Conservation Commission District Office within ten days after the work specified is completed. It should be signed and filed as a report on beginning drilling operations, results of shooting well, results of test of casing shut off, result of plugging of well, and other important operations, even though the work was witnessed by an agent of the Commission. See additional instructions in the Rules and Regulations of the Commission.

	Indicate 1	nature of rep	ort by checking bel	low.	
EPORT ON BEGINNING DRI OPERATIONS	LLING		REPORT ON	REPAIRING WELL	
EPORT ON RESULT OF SHO CHEMICAL TREATMENT				PULLING OR OTHERW	ISE
EPORT ON RESULT OF TEST	r of casing	x	REPORT ON	DEEPENING WELL	
EPORT ON RESULT OF PLU	GGING OF WEL				
	Harch 4,	1952	Box 547.	Hobbs, New Mexico	**********
					Place
ollowing is a report on the work Associated Oil Co					
Company or	Operator		Lease	, R 37- 5	
ne dates of this work were as fo					
nd approval of the proposed plar DETAL	was (was not) o	of WORK	ss out incorrect work DONE AND RESU h 2000 sks ce	ds.) LTS OBTAINED ment top cement be	ohind
We set #-5/8" 8-5/8" casing is 16 30 min.	casing at O' from sur	of WORK: 2990' wit	be sout incorrect work DONE AND RESU h 2000 sks ce sing tested at Company I hereby swear of is true and correct Name Position	co. Head Report the information.	onetabout Title tion given above
We set 8-5/8" 8-5/8" casing is 16 30 min. Vitnossed by E. W. Hogue	casing at O' from sur	of WORK 2990' wit face. Ca	as out incorrect word DONE AND RESU h 2000 aks cesting tested at Company I hereby swear of is true and correct Name Position Representing	ds.) LTS OBTAINED ment top cement be nd held 1000 psi i	ohind for The tion given above P. Shackelf

MISCELLANEOUS REPORTS ON WELLS

is completed. It should be signed of casing shut off, result of plug	and filed as a rep ging of well, and	ort on begint other import	mission District Office within ten days after the waining drilling operations, results of shooting well, reant operations, even though the work was with Rules and Regulations of the Commission.	esults of test
	Indicate n	ature of repo	ort by checking below.	****
REPORT ON BEGINNING DRI	LLING	<u>.</u>	REPORT ON REPAIRING WELL	
REPORT ON RESULT OF SHOO CHEMICAL TREATMENT (REPORT ON PULLING OR OTHERWISE ALTERING CASING	
REPORT ON RESULT OF TEST	r of Casing	x	REPORT ON DEEPENING WELL	
REPORT ON RESULT OF PLUC	GING OF WELL		,	
	April 23,	1952 E	Date Hobbs, New Mexico	
Following is a report on the work			under the heading notes above at the	
Associated Oil Co.	Operator		Lease Well No. 7	
NW/4 of NW/4	of Sec	15	., T 37-E	N. M. P. M.,
Bruneon	Pool	Lea		County.
We set $5\frac{1}{2}$ lin hung in \$-5/8° casi. Liner tested and he	ng at 26471.	Top of	regular coucut. 5½" liner was coment behind 5½" liner is 5400°.	•
Witnessed by R. W. Hogus	Name Tide	Water Ass	company Head Re	natabout
APPROVED: OIL CONSERVATION	соммізвіон		I hereby swear or affirm that the information is true and correct.	given above
noy yath	Myl	 Me	Name of Paragrams HaP. Shu	uckelford
1 1	a inspector	itie	Position Listrict Foreman	
<i>)</i>	11	, 19.	Representing	
Date			Address Box 517, Hobbs, New Hex	

FORM C-105

 7.00	AR	EA 6	40 AC	RES	VP1.V					

NEW MEXICO OIL CONSERVATION COMMISSION Santa Fe, New Mexico

WELL RECORD

Mail to Oil Conservation Commission, Santa Fe, New Mexico, or its proper agent not more than twenty days after completion of well. Follow instructions in the Eules and Esgulations of the Commission. Indicate questionable data by following it with (?). SUBMIT IN TRIPLICATE. FORM C-110 WILL NOT BE APPROVED UNTIL FORM C-106 IS PROPERLY FILLIED OUT.

51	ate "S"	Company or (* 7	, NW/	of NW/4 of 8	Addrei	15	_ 21 - S
37-	-B Leas	•	Brune	oon. ′			Lea	•	County.
	600	N. M. P. M.,.	he North	line and	380	t west of the Ea	et line of	ec. 15	-213-37E
State l	e flo adt bre	nd cas lease	is No.	- 9188	Aggie	mment No			***************************************
•									***************************************
e Less	Ti	de Water	Associa	ted 011	Company		Address Box	E 1404	Houston, 1, Tex
illing	commenced.	2-20)	19.	52 Drill	ing was complet	ed	4-20	<u>19</u> 5 2
		tractor	K.	P. More	m, Inc.		Address	fulsa,	Oklahosa
evation	above sea l	evel at top o	casing	34591	feet.				
ne infor	mation give	n is to be ke	ot confiden	tial until	Not e	onfidential	19	9	
			,	OIL	SANDS OR	ZONES			
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o. 3, fro	m	·····	to		No.	6, from	***************************************	to	
				IMPOR'	TANT WATE	ER SANDS			
clude d	ata on rate	of water inflo	w and elev		hich water r				
. 1, fro	m			to		fee	t		***************************************
. 2, fro	m			to		fee	t	*****************	
. 4, fro	m			to		fee	t	· · · · · · · · · · · · · · · · · · ·	······································
				C	ASING BECO	ORD			
	WEIGHT	THREADS			KIND OF	CUT & FILLED	PERFOR	RATED	
SIZE	WEIGHT PER FOOT	THREADS PER INCH	MAKE	AMOUNT	SHOE	FROM	FROM	то	PURPOSE
-3/8	36# 24 & 32#	Spiral We	ld Arms	o 2801 29971	Tex. Pat	ern			Surface Casing Salt String
				4771					
-5/8	178158"	88:		52881	Laricin	1	}		Production Stri

APPENDIX C C-141 Spill Report and Photos

HOBBS OCD

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rto Brazos Road, 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

JUN 0 6 2011

Form C-141 Revised October 10, 2003

RECEVED

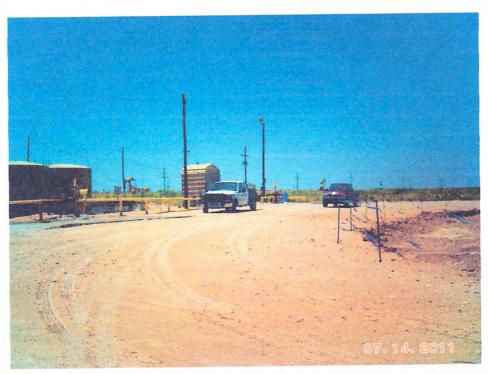
Submit 2 Copies to appropriate
District Office in accordance
with Rule 116 on back
side of form

1220 South St. Francis Dr. Santa Fe, NM 87505 Release Notification and Corrective Action

					C	PERAT	OR	х	☐ Initia	l Report		Final Report	
Name of Co	mpany Ke	y Energy Se	rvice			Contact	Bob Fisher						
Address		99 Eunice,				Telephone N	lo. 575-394-258						
Facility Nan	ne State	e S Water S	tation		I	Facility Type Brine & Fresh Water Sales							
Surface Ow	ner Deck	Estate		Mineral O	wner	State of No	w Mexico		Lease N	o. MS 000	4 0001		
Surface Own	ner Deer	Louis						.1	25000	200		260 100 100 100 100 100 100 100 100 100 1	
					THE RESERVE THE PERSON NAMED IN	WHEN PERSON NAMED IN COLUMN 2 IS NOT THE OWNER.					47.	00-00	
Unit Letter	Section	Township	Range	Feet from the		South Line	Feet from the 330		Vest Line west	County Lea-			
E	15	21S	37E	1340	north		330	,	vesi	Lca-			
	·	Latitud	e_N32° 2	9' 02.2	1	Longitude_	W103° 09' 28.8	"		-			
				NAT	URE	OF REL							
Type of Relea							Release 100 bbls		Volume R			0 bbls	
Source of Re	lease	transport	truck-Broi	ico Services		Date and H	lour of Occurrenc	e 5-	@ 8 am	Hour of Disc	covery	3-30-2011	
Was Immediate Notice Given?							Whom? Noey F	ranco. S		n duty			
was immedia	ate Notice (Yes [☐ No ☐ Not		11 125, 10	Whom: 1100y 11	. unico, c					
Required													
By Whom?							lour 5-30-2011 @		roource				
Was a Water	course Read		Yes x	☐ No		II YES, VO	olume Impacting t	ne wate	ercourse.			}	
If a Watercou	irse was Im	pacted, Descr	ibe Fully.	•									
										70		1	
										1		1	
									GW9	1631			
Describe Cau	se of Probl	em and Reme	dial Actio	n Taken.*									
Bronco Servi	ces truck o	perater fell as	eep while	loading his truck.								1	
												1	
Describe Are	a Affected	and Cleanup	Action Tal	cen.*									
Area North o	f the loadin	g docks. Ran	on Ponce	with Bronco Serv	ices Wi	ll take care o	f the clean up & e	xpense				1	
												1	
I hereby certi	fy that the	information g	iven above	is true and compl	ete to th	ne best of my	knowledge and u	nderstar	nd that purs	uant to NM	OCD n	ales and	
regulations al	I operators	are required t	o report a	nd/or file certain re	elease no	otifications a	nd perform correc	tive acti	ions for rela	eases which	may er	danger	
public health	or the envi	ronment. The	acceptan	ce of a C-141 repo	rt by the	NMOCD m	arked as "Final R	eport" d	loes not reli	eve the oper	ator of	liability	
should their o	operations h	nave failed to	adequately	investigate and re stance of a C-141	mediate	contaminati	on that pose a thr	eat to gr	ibility for c	, suriace wa	ith any	other	
		ws and/or regi		nance of a C-141	eport d	oes not renev	e the operator or	Сороно	ionny ioi o	omphanee "			
- January Grandy							OIL CON	SERV	ATION	DIVISIO	N		
-2								12/12/12/10	-17			1	
Signature: Ro	obert J Fish	er			-	g <u>14</u> 2	ENV SPECIA	KIST	,	1202	6	1	
Printed Name	e: Bob Fish	er			1	Approved by	District Supervis	OP!	Merst	20 L Bu	w		
111111111111111111111111111111111111111								T	1		্ব	111	
Title: District	t Manager					Approval Da	te: 06/08/11		Expiration	Date: 08	108	111	
C mail A Jan.	on efisher	Okasanana -	0.00			Conditions o	f Approval: 5∪13	mr	BIANA J				
E-mail Addre	ss: rusner(@keyenergy.c	OIII			C-141 C	34 08 [08]	11	FINAL	Attached			
Date: 5-	31-2011			Phone: 575-39	14-	C 11 1	5 [-01	• •		Paraceas.	991124	77/1	
2581	************			111 V-1100V-1117 2017 10107107107174 2717				The second		114-11-	-11-	2761	
Attach Addi	tional She	ets If Necess	ary										



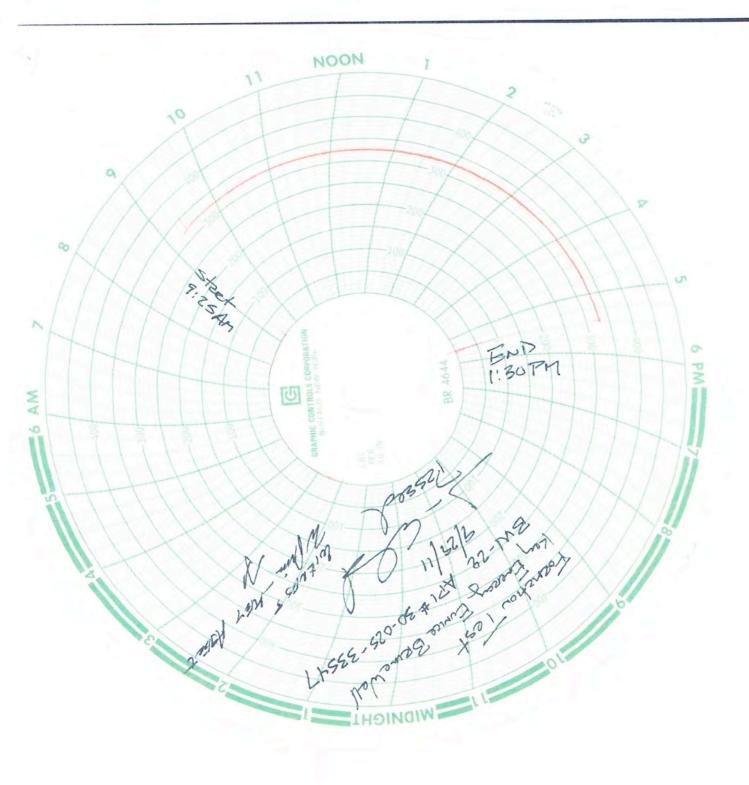
Key Energy BW-28 Brine Spill Area-looking west



Key Energy BW-28 shows loading pad area where brine water ran off pad. Spill was contained on-site.

APPENDIX D MIT TEST CHART

Submit 1 Copy To Appropriate District	State of New Mexico		Form C-103
District 1 - (575) 393-6161 HOBBS OCDEnergy	, Minerals and Natural Res	ources WELL A	Revised August 1, 2011
1625 N. French Dr., Hobbs, NM 88240 District II - (575) 748-1283	ONGERNA ETONARIA		4 0.5 million (1900)
811 S. First St., Artesia, NM 8824P 2 2 LUNOIL C	ONSERVATION DIVI	SION 5 India	ate Type of Lease
District-III - (505) 334-6178 1 1000 Rio Brazos Rd., Aztec, NM 87410	220 South St. Francis Dr Santa Fe, NM 87505	1 3	TATE X FEE
<u>District IV</u> – (505) 476-3460 1220 S. St. Francis Dr., Santa Fe, N RECEIVED 87505	Salita Pe, NIVI 87303	6. State MS-000	Oil & Gas Lease No.
SUNDRY NOTICES AND R			Name or Unit Agreement Name
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL DIFFERENT RESERVOIR. USE "APPLICATION FOR PI PROPOSALS.)		STATE	
	Other Brine Well		Number #1
2. Name of Operator		9. OGR	ID Number
Key Energy Services 3. Address of Operator		10. Poo	l name or Wildcat
Box 99 Eunice, N.M. 88231			ALADO
4. Well Location			
Unit Letter	feet from theN	line and33	60feet from the
line			
Section 15	Township 21S Ra		NMPM County LEA
11. Elevati	on (Show whether DR, RKB,	R1, GR, etc.)	
12. Check Appropriate	Box to Indicate Nature	of Notice, Report of	or Other Data
Management Acceptant where the entertain meters and the control of the control o			^ .
NOTICE OF INTENTION PERFORM REMEDIAL WORK PLUG AND	THE STATE OF STREET AND STREET STREET STREET, SAN THE STREET	SUBSEQUE EDIAL WORK	NT REPORT OF: ☐ ALTERING CASING ☐
TEMPORARILY ABANDON CHANGE F		MENCE DRILLING OF	
PULL OR ALTER CASING MULTIPLE		NG/CEMENT JOB	
DOWNHOLE COMMINGLE			
OTHER:	х□ ОТН	ER: TEST FORM	ATION TO 350#
13. Describe proposed or completed operation			
of starting any proposed work). SEE RU proposed completion or recompletion.	JLE 19.15.7.14 NMAC. For	Multiple Completions	Attach wellbore diagram of
proposed completion of recompletion.			
(40)			
PRESSURE FORMATION TO 350# WITH FRE	SH WATER FOR 4 HR TE	ST TEST DATE 9	2-29-2011
		100	
			a ti
81			8
	7		
Spud Date:	Rig Release Date:		
			¥)
I hereby certify that the information above is true	and complete to the best of r	ny knowledge and hel	of
A -	and complete to the best of i	ny knowiedge and bei	
11001 7 1	for las	1 M2	0 0/2/201
SIGNATURE Polity. July	TITLE DISTRIC	+ MANAGE	DATE 4/ 2//01/
Type or print name	E-mail address:		PHONE:
For State Use Only	7	38	E:
APPROVED BY:	TITLE STATE	y mas	DATE 9-22-2011
Conditions of Approval of any):	TILLE JAN	794	DATE /

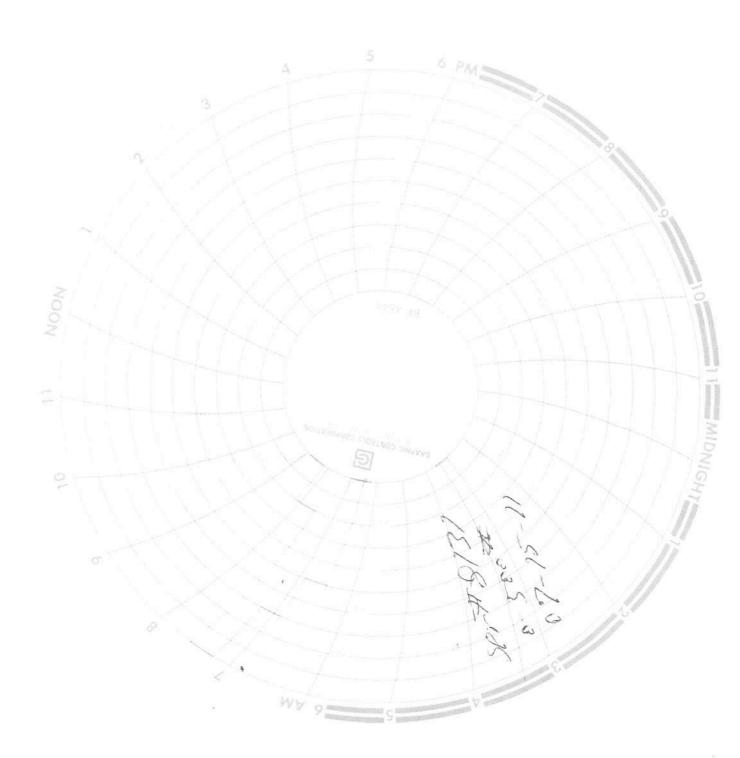


American Valve & Meter, Inc.

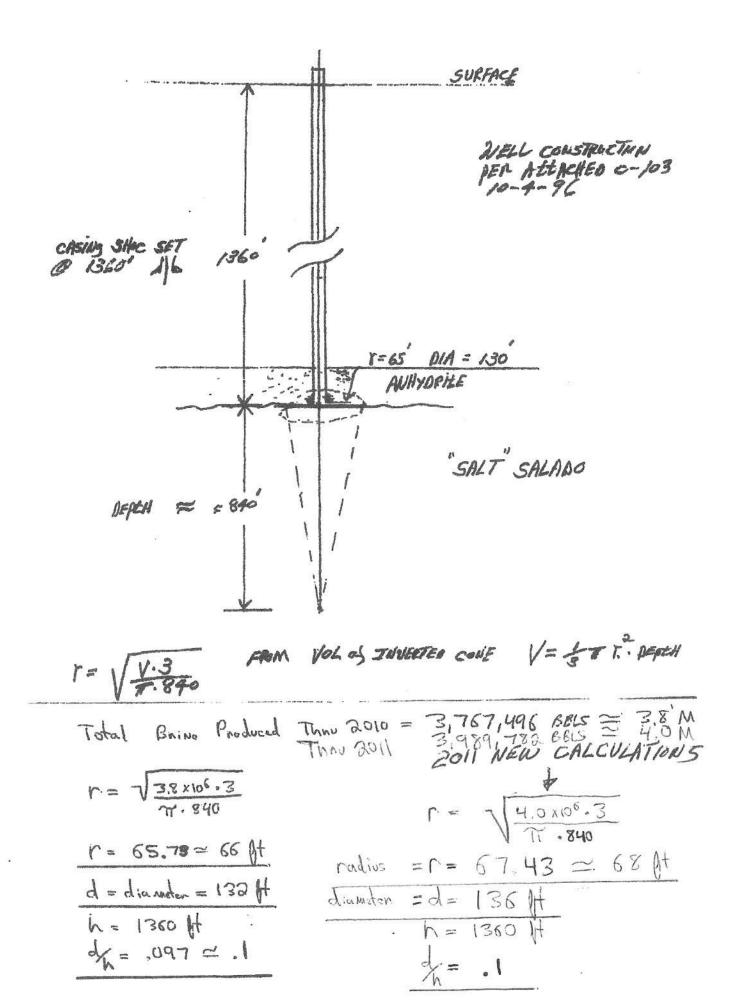
1113 W. BROADWAY P.O. BOX 166 HOBBS, NM 88240

то: <u>//</u>	ey		DATE:	97-15-	<i>))</i>
This is to ca	Collins		, Technicism for Am	erican Valve	& Meter,
	الأوم محلة السلم	recorde	following instrument. Serial No:	81.3	/
at these po			Temperature		75-
Test	Found	Left	Test	Found	Left
D		0	approximation of the second		
250		250	-		
250		350	-		
500	-	3-00	-	-	
190		100		* Walland	
0		N			
Remai	ks:				
				ne.	10

Signature Budla Cos



APPENDIX E BRINE CAVITY CALCULATIONS



Current Subsidence Report will be mailed within 30 days

APPENDIX F

AREA OF REVIEW

- Well Status List Spreadsheet- 1 page
- AOR Plot Plan- 1 page
- 2011 AOR Check Off List- 9 pages
- Critical AOR Wells last OCD file record-4 pages
- Two Additional Wells investigated near the Critical AOR-13 pages

2011 BW-28 AOR Review-- Well Status List up-dated Dec 23, 2011

								Within 1/4 mi AOR		Casing Program	Cased/Cemented	Corrective Action
	API#	Well Name	UL	Section	Ts	Rg	Footage	* within 660 ft		Checked	across salt section	Required
1	30-025-33547	Key-State no.001	E	15	215	37e	1340 FNL & 330 FW	. NA		NA		
1	30-025-06591	Apache NEDU 604	Ē	15	21s	37e	2310 FNL & 990 FWL	yes	1	no	check again 2012 report	check again 2012 report
1	30-025-09913	Shell NEDU 603	E	15	215	37e	3390 FSL & 4520 FEL	ves*	1 1	yes	yes	no
1	30-025-09914	Apache NEDU 602	F	15	215	37e	1980 FNL & 660 FWL	yes*	1 1	yes	yes	no
1	30-025-35271	Apache NEDU 602625	F	15	215	37e	2580 FNL & 1300 FWL		* *	na	na	na
ô	30-025-37223++	Apache NEDU 628	E	15	215	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	215	37e	760 FNL & 1980 FWL	no		na	na	na
-	30-025-34649	Apache NEDU 622	C	15	215	37e	1229 FNL & 2498 FWL			na	na	
-	30-025-34886	Apache NEDU 524	C	15	215	37e	160 FNL & 1350 FWL				1100	na
1								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 2012 report	check again 2012 report
1	30-025-34887	Apache NEDU 624	С	15	21s	37e	1250 FNL & 1368 FWL	yes	1	no	check again 2012 report	check again 2012 report
1	30-025-06586	Chevron St. 001	D	15	21s	37e	660 FNL & 660 FWL	yes*	1 1	yes	yes	no
1	30-025-06612	Chevron St. 005	D	15	215	37e	660 FNL & 990 FWL	yes	1	yes	yes	no
1	30-025-06614	Apache NEDU 601	D	15	215	37e	600 FNL & 990 FWL	yes	1	yes	yes	no
1	30-025-36809	Apache NEDU 526	D	15	215	37e	130 FNL & 330 FWL	yes	1	no	check again 2012 report	check again 2012 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	215	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	К	15	21s	37e	1650 FSL & 2310 FWL	no		na	na	na
1	30-025-06607(added 2010)	Apache Argo 011	K	15	215	37e	2080 FSL & 1650 FWL			na	na	na
1	30-025-09918	Apache NEDU 703	K	15	215	37e	1980 FSL & 1980 FWL			na	na	na
1	30-025-39828	Apache Argo 14	K	15	215	37e	2190 FSL & 2130 FWL			na	na	na
î	30-025-34657	Apache NEDU 623	K	15	215	37e	2540 FSL & 2482 FWL			na	na	na
1	30-025-06606	Apache Argo 010	1	15	215	37e	1880 FSL & 760 FWL	no		na	na	na
1	30-025-09915	Apache Argo 007	1	15	215	37e	2310 FSL & 990 FWL	no		na	na	na
1	30-025-09916	Apache NEDU 701	i.	15	215	37e	1980 FSL & 660 FWL	no		na	na	na
1	30-025-34888	Apache NEDU 713	-	15	215	37e	1330 FSL & 1142 FWI			na	na	na
1	30-025-37238	Apache NEDU 629	Ĺ	15	215	37e	2630 FSL & 330 FWL	yes	1	no	check again 2012 report	check again 2012 report
,	30-025-06623	Apache WBDU 057	A	16	215	37e	660 FNL & 660 FEL	yes	1	no	check again 2012 report	check again 2012 report
1	30-025-06023	Chevron HLNCT 006	A	16	215	37e	330 FNL & 600 FEL	no	1	no	na	
1	30-025-39277	Apache WBDU 113	Ä	16	215	37e	1290 FNL & 330 FEL	yes*	1 1	yes	yes	na no
	30-025-06621	Assaha WIDOU OFC			24-	270	1980 FNL & 660 FEL					
-		Apache WBDU 056	н	16	215	37e		yes	1	no	check again 2012 report	check again 2012 report
1	30-025-06624	Chevron HLNCT 005	н	16	215	37e	2310 FNL & 330 FEL	yes	1	no	check again 2012 report	check again 2012 report
1	30-025-36741	Chevron HLNCT 007	н	16	215	37e	1330 FNL & 1070 FEL	no		na	na	na
1	30-025-37834	Chevron HLNCT 008	н	16	21s	37e	2310 FNL & 030 FEL	yes	1	no	check again 2012 report	check again 2012 report
1	30-025-06617	Apache St. DA 005	I	16	215	37e	1980 FSL & 330 FEL	no		na	na	na
1	30-025-06619	Apache WBDU078	I	16	215	37e	1980 FSL & 660 FEL	no		na	na	na
1	30-025-37916	Apache St. DA 013	Y	16	215	37e	1650 FSL & 780 FEL	no		na	na	na

4 15

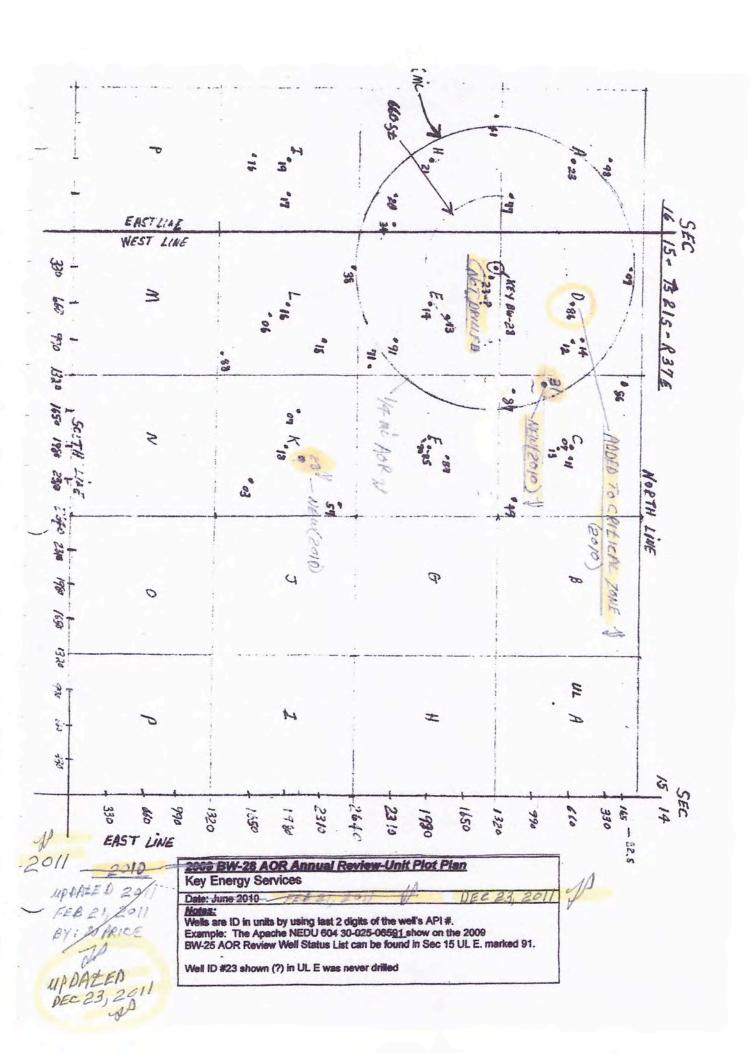
³⁹ Total # of wells in adjacent quarter-sections

⁴ 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 annually.

** API # 30-025-37223 not drilled



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.

DEC 2011

7 Records Found

Displaying Screen 1 of 1

	API Number	ULSTR	Footages
Ö.	3002506609	C -15-21S-37E	660 FNL & 1980 FWL
-	Well Name & Number: STA	TE S No. 002	
	Operator: CHEVRON U S	A INC	
$\overline{\Box}$	3002506611	C -15-21S-37E	660 FNL & 2080 FWL
	Well Name & Number: STA	TE S No. 004	
	Operator: CHEVRON U S	A INC	2
e.	3002506613	C -15-21S-37E	760 FNL & 1980 FWL
	Well Name & Number: NOF	RTHEAST DRINKARD UNI	
	Operator: APACHE CORP		
	3002534649		1229 FNL & 2498 FWL
Ψ.	Well Name & Number: NOF		
	Operator: APACHE CORP	Successful to the successful t	
<i>y</i> =4.	3002534886	C -15-21S-37E	160 FNL & 1350 FWL
-	Well Name & Number: NOF	RTHEAST DRINKARD UN	IT No. 524
	Operator: APACHE CORP		. /
j-4	3002534887	C -15-21S-37E	1250 FNL & 1368 FWL
	Well Name & Number: NO		
	Operator: APACHE CORF		12
10/774		C -15-21S-37E	990 FNL & 1330 FWL
	3002539831		000 1112 0 1000 1112
	Well Name & Number: STA	NIE 3 NO. 012	

7 Records Found

Operator: CHEVRON U S A INC

Displaying Screen 1 of 1

Continue

Go Back

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

Footages ULSTR API Number 1650 FSL & 2310 FWL K -15-21S-37E 3002506603 Well Name & Number: ARGO No. 006 Operator: APACHE CORP 2080 FSL & 1650 FWL / K -15-21S-37E 3002506607 Well Name & Number: ARGO No. 011 Operator: APACHE CORP 1980 FSL & 1980 FWL K -15-21S-37E 3002509918 Well Name & Number: NORTHEAST DRINKARD UNIT No. 703 Operator: APACHE CORP 2540 FSL & 2482 FWL K -15-21S-37E 3002534657 Well Name & Number: NORTHEAST DRINKARD UNIT No. 623 Operator: APACHE CORP

Well Name & Number: ARGO No. 014

Operator: APACHE CORP

5 Records Found

3002539828

Displaying Screen 1 of 1

2190 FSL & 2130 FWL

Continue

K -15-21S-37E

Go Back

DEC 2011

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.

DEC 2011

3 Records Found

Displaying Screen 1 of 1

ULSTR API Number

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

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.

DEZ 2011

5 Records Found

Displaying Screen 1 of 1

Footages API Number ULSTR 1880 FSL & 760 FWL 3002506606 L -15-21S-37E Well Name & Number: ARGO No. 010 Operator: APACHE CORP 2310 FSL & 990 FWL 3002509915 L -15-21S-37E Well Name & Number: ARGO No. 007 Operator: APACHE CORP 1980 FSL & 660 FWL L -15-21S-37E 3002509916 Well Name & Number: NORTHEAST DRINKARD UNIT No. 701 Operator: APACHE CORP 1330 FSL & 1142 FWL L -15-21S-37E 3002534888 Well Name & Number: NORTHEAST DRINKARD UNIT No. 713 Operator: APACHE CORP 2630 FSL & 330 FWL L -15-21S-37E 3002537238 Well Name & Number: NORTHEAST DRINKARD UNIT No. 629

5 Records Found

Operator: APACHE CORP

Displaying Screen 1 of 1

Continue

Go Back

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.

DÉE 2011

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

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.

Déc 2011

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

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.

DEC 2011

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

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.

1)EZ 2011

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

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 USA 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

DEC 2011

State of New Mexico Revised February 10, 1994 Instantions on back Submit to Appropriate District Office Dutret I P O. Box 1950; Hobbs, NM 88241-1980 Energy, Minerals and Natural Resources Department District 6 P O Drawer DD, Artesia, NM 88211-0716 OIL CONSERVATION DIVISION P.O. Box 2088 District III 1000 Rto Brazon Rd _ Artec, NM 17410 AMENDED REPORT Debict IV P.O. Bex 2005, Santa Fe, NM 87604-2088 | Department and Anthers | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street France | Total Street Fran CG effective 8/1/1998 22900 Eunice Blinebry-Tubb-Drinkard-North 30-025-09914 Northeast Drinkard Unit 22503 Surface Location

Township

15 215 Feet from the North/South line Feet Item the East/West time Cr 1980 N 660 W Lea North/South Ine Feet from the East/West line " Bottom Hole Location Lit or left his 344 Corner 1/19/90 S W Transporter Name EOTT Energy Pipeline LP P O Box 4666 O A, Sec 2, T21S-R37E NEDU Central Battery 2264710 037480 Houston, TX 77210-4666 Warren Petroleum P O Box 1589 Tulsa, OK 74102 Texas-New Mexico Pipeline Co 2264710 O P O Box 5568 TA Denver, CO 80217-5578 Sid Richardson Gasoline Co. 201 Main St., Suite 3000 Ft Worth, TX 76102 V Produced Water 2264750 A, Sec 2, T21S-R37E

V. Well Completion Data

A Sport Cale

A Reach Cale VI Well Test Data OIL CONSERVATION DIVISION faul M.

Pamela M. Leighton

Regulatory Analyst

713-296-7120

and the

SEP 9 1 1998

Appropriate	State of New Mexico Energy, Minerals and Natural Resources Department	Form C-165 Bevised 1-1-89
MSTRICT I O. Box 1980, Hobbs, NM 88240	OIL CONSERVATION DIVISION P.O. Box 2088	WELL API NO. 30-025-09913
NSTRICT II O. Drawer DD, Artesia, NM 88210	Santa Fe, New Mexico 87504-2088	5. indicate Type of Lease STATE X PEE
OSTRUCT III OOO Rio Brazos Rd., Aziec, NM 87410		6. State Oil & Gas Lease No.
SUNDRY NO DO NOT USE THIS FORM FOR PO DIFFERENT RES (FORM)	TICES AND REPORTS ON WELLS POPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A ERVOIR, USE "APPLICATION FOR PERMIT" (-101) FOR SUCH PROPOSALS.)	7. Lass Name or Unit Agreement Name NORTHEAST DRINKARD UNIT
. Type of Well:		
Will. X WELL.		8. Well No. 603
Shell Western E&P Inc.	((227)	9. Pool same or Wildox
P.O. Box 576 Houston,	TX 77001-0576 (WCK 5237)	N. EUNICE BLINEBRY-DRINKARD-TUBB
Saction 15	390 Feet From The	4520 Feet Prote The EAST Lies NMPM LEA Creaty
NOTICE OF I	PLUG AND ABANDON REMEDIAL WORK CHANGE PLANS COMMENCE DRILL CASING TEST AND	ALTERING CASING COMMENT COMMENT COMMENT AND ABANDONMENT COMMENT JOB COMMENT JO
Merk) SEE ROLE 1105. 11-13 TO 11-22-93: DMPD 35' CLS C CMT ON T 6582' W/250 SX CLS C N CRC WHB FL. ISOLATED COO SX CLS C NEAT. STU CRC MHB FL. PERF 4-W. LEFT 63' CMT ON TOP OF THE CAPT OF STUDY OF THE CAPT OF SOME STUDY OF THE CAPT.	Persiona (Clearly state all persinent details, and give persinent details, and give persinent details, and give persinent details, and give persinent details, and give persinent details, and give persinent details, and give persions of given and	LINEBRY PERFS 5715' - IT ON TOP OF CICR (TOC # 5486'). SOZD CSG LK W/ (TOC # 4715'.) C DWN TBQ & OUT STUNG OUT OF CICR. Y & FOUND TOC # 1/2 X 8-5/8 ANN.
I hereby certify that the information above sport ATURE Management of the A. J. DUF		- ASSET ADMIN. DATE 1/07/94 TELEPHONE NO. 713/544-3797
TYPE OR PROPER SAME A. J. DUF	O DIL a Live	FEB 15.193F
Charlie	erren me	DATE
CONSTRONG OF APPROVAL, IF ANT:		Ni.

	T 0 101
Submit 3 Copies To Appropriate District Office District State of New Mexico Office District 1 Simple State of New Mexico Office District 1	Form C-103 June 19, 2008
1625 N French Dr., Hobbs, NNP88530	WELL API NO. 30-025-06586
District II 1301 W Grand Ave, Artesia, NM 88210 District III 1000 Rao Brazos Rd, Aztec, NM 87410UG 1 4 76731220 South St. Francis Dr. 1000 Rao Brazos Rd, Aztec, NM 87410UG 1 5 States Fe, NM 87505	5. Indicate Type of Lease
LASTRICATE TO THE PART OF THE	6. State Oil & Gas Lease No.
1220 S St Francis Dr., Sans Fe M BBS UCD 87505	
SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A	7. Lease Name or Unit Agreement Name
DIFFERENT RESERVOIR USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS)	STATE S 8. Well Number 1
Type of Well: Oil Well Gas Well Other Name of Operator	9. OGRID Number 4323
CHEVRON 3. Address of Operator	10. Pool name or Wildcat
15 SMITH ROAD, MIDLAND, TEXAS 79705	PENROSE SKELLY GRAYBURG
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'	
	2-2 22 22 22 22 22 22 22 22 22 22 22 22
Check Appropriate Box to Indicate Nature of Notice	, Report or Other Data
	BSEQUENT REPORT OF:
PERFORM REMEDIAL WORK PLUG AND ABANDON REMEDIAL WO COMMENCE DE	RK ALTERING CASING RILLING OPNS. PAND A
PULL OR ALTER CASING MULTIPLE COMPL CASING/CEMER	NT JOB
WAY AND THE STATE OF THE STATE	
13. Describe proposed or completed operations. (Clearly state all pertinent details, a	NZE & SCALE SQUEEZE and give pertinent dates, including estimated date
of starting any proposed work). SEE RULE 1103. For Multiple Completions: A or recompletion.	Attach wellbore diagram of proposed completion
07-30-08: MIRU. 07-31-08: REL TAC. TIH W/WS TO 4527. DID NOT TAG FILL. S ACID TO FILL TBG. WELL ON VAC. ACIDIZE PERFS W/105 BBLS ACID. ALL PE 08-06-08: PKR WOULD NOT SET. COLLAR ABOVE PKR IS SPLIT. TIH W/PEW C PKR. TIH W/PKR TO 3672 & SET. PMP 105 BBLS SCALE INHIB. 08-07-08: REL 1 08-08-08. RUN PMP & RODS. RIG DOWN. FINAL REPORT	RFS OPN VAC. SWAB. 08-05-08: SWAB. OLLAR. TAG FISH @ 3905. SET PKR. REL
Spud Date: 07-20 08 Rig Release Date: 8	-08-08
0730-05	-U8-UK
I hereby certify that the information above is true and complete to the best of my knowled	ige and belief.
A -O	-
SIGNATURE Service Fon TITLE REGULATORY SPEC	IALIST DATE 08-11-2008
Type or print name DENISE PINKERTON E-mail address: leakejd@chevro	n.com PHONE: 432-687-7375
For State Use Only	AUG 18 2008
APPROVED BY: China Welliam TITLE	CERAL MANAGEDATE
Conditions of Approval (if any):	

301 W. Grand A.	remac, Art	scsin, NM #	(210	個的		Natural Resour	ces	Submin to		Form C- evised Feb. 26, 2 priate District Of	007
District III 900 Rio Hessos I District IV 229 S. St. Franci	M , Azroc Dr , San	PIO	BESU	ال الم	20 South St. Santa Fe, N.	Francis Dr. M 87505				5 Co MENDED REPO	pies
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Operator as Apache Corpor	ation		1				873	200			_
6120 S Yale Av Tulsa, OK 7413	e, Sulte:	1500					3 Reason for NC			/ 10/07/2009	
*AFI Numbe			pet Name	or Tubb I	Orinkard, North	/		* Feel 22900	Code	,	
30 - 0 25-39 1 Property Co			reporty Na of Blinebry					*Well	Numbe	· /	\neg
37346			t Blinebry	Drinkard	Unit	(113			
II. "Sur Ut or lot no.	face La Section	Townshi	p Range	Let Idn	Feet from the	North/South lin	e Feet from the		st line	County	7
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UL or lot no.	tom Ho	ole Locat	n Runer	Let Ide	Feet from the	North/South Ho	Feet from the	East/We	at line	County	\neg
DE DE SUR MONT	J. Carriolli	100000						1			
12 Lot Code S	10/7/200	scing Method Code 19	" Ges C 10/07/20	venection lete 09	12 C-129 Per	mit Number	C-129 Effective	Date	17 C-12	9 Expiration Date	
III. Oil a		Transpo	rters		" Transpo	eter Name				** O/G/W	\neg
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Commercial Control	2000										商
IV. Well 1 Sput Ds 09/15/200	Compl	22 Rene	la ly Date /2009		23 TB 5912	24 PRTD 6853'	²⁵ Perfor: 5635'-5			[≥] DHC, MC	高
IV, Well 21 Spud De 09/15/200	Compl	22 Rene	ly Date 72009	g & Tubi	6912		5635'-8		3º Sack	35 DNC, MC	5.78 (78)
IV, Well 21 Spud De 09/15/200	Compl te	22 Rene	ly Date 72009	g & Tubi 8-5/8"	6912	6853'	5635'-8 Set				阿爾
IV, Well 19 Spool De Cos 15/200 79 Ho 12-	Comple se 9	22 Rene	ly Date 72009		6912	6853' P Depth	5635'-6 Set		650	s Cement	[] [] [] [] [] [] [] [] [] [] [] [] [] [
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IV, Well 1 25 Spud Da 09/15/200 27 He 12- 7- V, Well 1 20 Date New	Complete 9 le Size 1/4*	22 Reas 10/07 10/07 25 Gas Del 10/07	by Date /2009 23 Casin	8-5/8* 5-1/2*	6912 ing Sier	6853' 3 Depth 1342 6912	5635'-6 Set.	712	1000	s Cement sx, circ sx, circ	
IV, Well 15 Sport The 09/15/200 7 He 12- 7- V, Wsll 1 Date New 16/07/200	Complete 9 le Size 1/4* 7/8* Cest Da OH 9 ze with pa	the 10/07 is the rules of d that the rules of	ly Date /2009 28 Casin Svery Date /2009 Oil	8-5/8* 5-1/2* 10	Test Date x19/2009 Water 81 Division have	6853' 7 Depth 1342 6912 24 Test Les 24 hour	5635'-6 Set.	bg Pressu	650 1000	s Cenegi sx, circ sx, circ sx, circ sx, circ	阿
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IV. Well 14 Spot the Osr 15/200 77 He 12- 7- 7- 12 Date New 10/07/200 15 Checke Si 16 Leroby corridors 16 Signature 17 Printed name Amber Cooke	Complete 9 9 1 1/4" Feet Da 16 Size 11/4" Feet Da 16 Size 11/4" Feet Da 16 Size 11/4"	the 10/07 is the rules of d that the rules of	by Date (72009) 28 Casin Severy Date (72009) Oil 11 If the Oil Confidentions	8-5/8* 5-1/2* 10	Test Date x19/2009 Water 81 Division have	6853' Theath 1342' 6912' "Test Lee 24 hour " Cas 268' Approved by	563S-6 Set. Set. Oil. CONSE	bg Pressu	650 1000 ere	s Cenegi sx, circ sx, circ sx, circ sx, circ	
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IV. Well 21 Spot the O9/15/200 22 He 12- 23 Let New 140/15/200 24 Checke Si 25 Checke Si 26 Thereby cert bach complete to the Signature: Printed name: Amber Cooke Printed Cooke Printed Cooke Title Printed Cooke Title	Complete 9 le Size 1/4* Cest Da 20 le Size with that it with the best best best best best best best bes	the 10/07 a control of the rules of the rule	by Date //2009 23 Casin Sivery Date //2009 Out 1 The Oil Conformation odge and bel	8-5/8° 5-1/2° 10 10	Test Date x19/2009 Water 81 Division have	6853' Theath 1342' 6912' "Test Lee 24 hour " Cas 268' Approved by	563S-6 Set. Set. Oil. CONSE	bg Pressu	650 1000 ere	s Cenegi sx, circ sx, circ sx, circ sx, circ	THE STATE OF THE S

Appropriate strict Office	argy, Minerals	and Natural Resources Departine	Revised 1-1-89
STRICT I	OIL CONS	ERVATION DIVISION	WELL API NO.
O. Box 1980, Hobbs, NM 882	240	P.O. Box 2088	30 025 06612
STRICT II O. Box Drawer DD, Artesia, Ni	M 88210 Santa Fe	New Mexico 87504-2088	5. Indicate Type of Lease STATE FEE
STRICT III	, 00219		6. State Oil / Gas Lease No.
000 Rio Brazos Rd., Aztec, NM	87410		B-9188
SUNDE	RY NOTICES AND REPO	OR TO DEEPEN OR PLUG BACK TO A	7. Lease Name or Unit Agreement Name
DIEEEDENT	RESERVOIR. USE "APPLI FORM C-101) FOR SUCH P	CATION FOR PERMIT	STATE S
Type of Well: OIL WELL	WELL OTHER		8. Well No.
Name of Operator TEXA	CO EXPLORATION & PRO	DUCTION INC	9. Pool Name or Wildcat
	BOX 730, HOBBS, NM 8824	0	Penrose Skelly Grayburg
Well Location Unit LetterD	: 660 Feet Fr	om The NORTH Line and 990	Feet From TheLine
		Range 37E	NMPMLEA_COUNTY
Section 10		w whether DF, RKB, RT,GR, etc.) 3459' KI	
· Ch	neck Appropriate Box to	Indicate Nature of Notice, Repo	ort, or Other Data
NOTICE OF INTE		5	SUBSEQUENT REPORT OF:
SECTION SECTIO	PLUG AND ABANDO	N REMEDIAL WORK	ALTERING CASING
ALTER TO A TO A TO A TO A TO A TO A TO A TO	CHANGE PLANS	COMMENCE DRILLING	PERATION PLUG AND ABANDONMENT
		CASING TEST AND CEN	MENT JOB
PULL OR ALTER CASING OTHER:		OTHER:	Recompletion
Objective: Abandon Drinkard, Co 1) Set 5 1/2" CIBP w/35' cement 2) Perf 5 1/2" casing w/8 SPF 38 3) Acidize perfs w/1550 gal 15% 4) Ran 2 3/8" tubing w/5 1/2" pac 5) 04/06/94: Flow 1 oil, 108 wtr, 6	cap - New PBTD=6395' 41-51' (80 holes) NEFE ker set @ 3781'		
SIGNATURE CAN POL	Larry W. Johnson		DATE <u>4/14/94</u> Telephone No. 397-0426
TYPE OR PRINT NAME		ORIGINAL SIGNED BY JEE	SY SEXTON
(This space for State Use)		TITLE DISTRICY I SUPERLY	ISOR DATE APR 18 1994

CONDITIONS OF APPROVAL, IF ANY:

State of New Mexico

Form C-103

DeSoto/Nichois 12 93 ver 1.0

DISTRICT I

P.O. Box 1980, Hobbs, NM 88241-1980

P.O. Box Drawer DD, Artesia, NM 88211-0719

DISTRICT III

I hereby certify that the rules and regulations of the Oil Conservation

State of New Mexico Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

P.O. Box 2088

Form C-104 Revised February 10,1994 Instructions on back Submit to Appropriate District Office 5 Copies

OIL CONSERVATION DIVISION

DISTRICT IV		c, NM 87410		Sa	nta Fe, N	lew M	lexico 87	504-208	38		AMENDE	D REPORT
P.O. Box 2088].	3, Santa Fe, I	NM 87504-208 RFC		RALLOV	VARI F A	A ON	UTHOR	ZATIO	N TO TRANS	PORT		
1.			rator Name ar		*/\DEL/	11107	10111011	2110		GRID Nun	nber	
TEXACO EX	(PI ORATIO	N & PRODUC		10 / 1001 000				1		0223		
								-	3	Reason for I	Filing Code	
P.O. BOX 73	30, HOBBS,	NM 88240							,	RC		
4 API	Number				5	Pool Na	ame			T	6 Pool	Code
30 (Peni	rose Ske	elly Graybur	9			50	350			
⁷ Pi	roperty Code		8	Propert	ty Name				⁰ We	il No.		
	011110			4		STA	TES					5
l. 10 Surfac	ce Location	1										
UI or lot no.	Section	Township	Range	Lot.ldn	Feet From	n The	North/So	uth Line	Feet From The	East/V	Vest Line	County
D	15	218	37E		660)	NOF	TH	990	W	EST	LEA
11 Bottor	m Hole Loc	cation										
Ul or lot no.	Section	Township	Range	Lot.ldn	Feet From	m The	North/Sc	uth Line	Feet From The	East/V	Vest Line	County
										_1		
12 Lse Code S	13 Producin	g Method Code	16.77-10.11/20-070-0.000	nection Date	15 C-12	29 Perm	it Number	16	C-129 Effective D	ate	¹⁷ C-129	Expiration Date
III. Oil an	d Gae Trai	nenortere										
011 0111	18 Transporter 19 Transporter Name				T	²⁰ POI	²⁰ POD 21 O/G 22			D ULSTR Lo		
022628		TEX-I	NM PIPELINE			2471	910	0	C 15 21S 37E			
		PO BOX 25	28, HOBBS,	NM 88240	NAME OF TAXABLE PARTY.							
100000000000000000000000000000000000000						2471	030			2450	40.075	
022345	5	91.077000	EXACO E & P INC 24 3000, TULSA, OK 74102			29/1	930	G	D 15 21S 37E			
			,									
					1000							
								e dia e m				
IV. Produc											-	-
11000	ced Water			-		24 po	D III CTD I	antina an	d Description			
	POD 471950					PO		15 21S 37				
	completion	Data										
37011 6	Spud Date		28 Ready Date		27 .	Total De	enth	7	28 PBTD	T	29 Per	forations
	spuo Date		3/18/94			8148		6395				341-51
30	HOLE SIZE		31 CAS	ING & TUBI	NG SIZE		32	DEPTH SI	ET	3	3 SACKS CE	MENT
17 1/2"			13 3/8"			2	294'			300		
11"			8 5/8*				2974' 2000					
6 3/4"			6 1/2*			8	3147'			500		
VI. Well T	est Data											
34 Date #		35 Gas Del 03/	ivery Date	1	te of Test 04/07/94		37 Length			Pressure 210		ing Pressure 0
	3/18/94 0 40 Choke Size 41 0 23/64				er - Bbis. 108		24 HR 43 Gas - MCF 626		44 A	AOF 45 Test Metho		

Signature Printed Name Larry W. Johnson Title Engineering Assistant	oge and belief.	Approved By: ORIGINAL SIGNED BY JERRY SEXTON DISTRICT I SUPERVISOR Approval Date: APR 1 3 1994
Date 4/8/94	Telephone 397-0426	
47 If this is a change of operator fill in the OGRI		Date .
Previous Operator Sign	ature Printed Name	Title Date

Z

2A Prinkard

di

Submat to Appropriate

State of New Mexico

Form C-101

Lee Lease - 3 copies	Ener	gy, Minerals and Natural F	Resources Department		Revised 1-1-89
DISTRICT I		CONSERVATI	ON DIVISION	WELL API NO.	
P.O. Box 1980, Hobbs, N	IM 86240	30 025 0	06612		
DISTRICT II P O Box Drawer DD, Art	esia, NM 88210	Santa Fe, New Mexic	0 87504-2088	5. Indicate Type of Lease	STATE FEE
DISTRICT III	100 NIM 97410			6. State Oil / Gas Lease No.	B-9188
1000 Rio Brazos Rd., Az		TO DRILL, DEEPEN, OR	DILIG BACK		3 0 1 0 0
		DEEPEN D	PLUG BACK	7. Lease Name or Unit Agre	
b. Type of Well: OIL GAS WELL WELL	OTHER	SINGLE ZONE	MULTIPLE ZONE	STATE S	
Name of Operator		ION & PRODUCTION INC.		8. Well No. 5	
3 Address of Operator	P.O. BOX 730, HOBB			9. Pool Name or Wildcat SKELLY PENRO	SEGRAYBURG
4. Well Location	<u> </u>	100	TU line and 000	Feet From The WEST	Line
	D :660	Feet From TheNOF			LEA_COUNTY
Section _	15 Towns	hip21S	Range 37E N	WPW	CCA GOOM!
	10. Pr	oposed Depth 6395	11. Formation GRAYBURG	12	. Rotary or C.T.
13. Elevations (Show wheth 3459' KB	ner DF, RT, GR, etc.)	14. Kind and Status Plug Bond	15. Drilling Contra	ctor 16. Appro 3/10/94	x. Date Work will start
17.		PROPOSED CASING	AND CEMENT PROGR	AM	
SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEMENT	EST. TOP
17 1/2"	13 3/8"	36#	294'	300	CIRC
				000	
11"	8 5/8"	24#	2974	2000	CIRC
The second second	· · · · · · · · · · · · · · · · · · ·	24# 15.5 & 17#	2974* 8147'		CIRC 2570'

IN ABOVE SPACE DESCRIBE I ZONE GIVE BLOWOUT PREVENTER PROGRAM		ROPOSAL IS TO DEEPEN ON PLUG BACK, GIVE UNITA ON PRESENT PROCESS		
nerecy certify that the information above is true and co	conclete to the best of my torouledge and betef.	LE Prod. Engineer	DATE _	3/7/94
TYPE OR PRINT NAME	Dan A. Dunham		Telephone No.	397-0425
his space for State Use)		ORIGINAL SIGNED BY JERRY SEXTON		
APPROVED BY	тіті	E DIUTRICT I UGPERVISOR	DATE	
CONDITIONS OF APPROVAL IF ANY			Pas alakini	noin 12.03 year 1.0

SION

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 referred drilling begins. If changes in the proposed plan are considered advisable, a copy of this notice and wing auch 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	

January 31, 1951

Date

OIL	CON	SERV	ATION	COMMISSION,
Santa	a Fe,	New	Mexico,	

Gentlemen:

Company	ated Oil Company State "S" Well No. 5 in NW/4 NW/
Sec. 15 , T 21-	S , R 37-E , N. M., P. M., Brunson Field, Lea Count The well is 660 feet 355 (S.) of the N line and 990 fee (E.) 1350 of the W line of Section 15, 21S, 37E
	(Give location from section or other legal subdivision lines. Cross out wron directions.)
	If state land the oil and gas lease is No. B-\$188 Assignment No.
	If patented land the owner is
	If government land the permittee is
_	Address Tide Water Associated Oil Company
AREA 640 ACRES	Address Box 1404, Houston 1, Texas We propose to drill well with drilling equipment as follows: Rotary

The status of a bond for this well in conformance with Rule 39 of the General Rules and Regulations of the Commission is as follows: Blanket Bond dated Nov. 30, 1937, with Saint Faul-Mercury Ind. Co. We propose to use the following strings of casing and to land or cement them as indicated:

Bize of Hole	Size of Casing	Weight Per Foot	New er Second Hand	Depth	Landed or Cemented	Saeks Cement
17 1/2"	13 3/8"	36#	New	280	Cemented	300
11"	8 5/8"	24# and 32#	New	28001	Cemen ted	2000
6 3/4"	5 1/2"	17#	New	78001	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 7600 feet.

Additional information:

Approved FER - 5 195!	Sincerely yours,
except as follows:	Tide water Associated Oil Company
	Position Authorized Employee
OIL CONSERVATION COMMISSION,	Send communications regarding well to
By I VEL Wedbardly fi	Name J. S. Springer, c/o Tide "ater Assoc. Oil Company,
Title Charles inscention	Address Midland, Texas

Submit 3 Copies To Appropriate District State of New Mexico Office	Form C-103 May 27, 2004
District Energy, Minerals and Natural Resources	WELL API NO.
1625 N French Dr., Hobbs, NM 88240 District II OIL CONSERVATION DIVISION	30-025-06614
District III 1220 South St. Francis Dr.	5. Indicate Type of Lease STATE S FEE STATE
District IV Santa Fe, NM 87505	6. State Oil & Gas Lease No.
1220 S St Francis Dr , Santa Fe, NM 87505	BD-9188
SUNDRY NOREGRAND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A	7. Lease Name or Unit Agreement Name Northeast Drinkard Unit
DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)	8. Well Number
1. Type of Well: Oil Well Gas Well Other	601
2. Name of Operator Apache Corporation	9. OGRID Number
3. Address of Operator	10. Pool name or Wildcat
303 Veterans Airpark Lane, Ste. 3000, Midland, TX 79705	Eunice, Blinebry-Tubb-Drinkard, N.
4. Well Location	
Unit Letter D : 600 feet from the N line and 990 feet fr	rom the W line
Section 15 Township 21S Range 37E NMPM	County Lea
11. Elevation (Show whether DR, RKB, RT, GR, etc.	
Pit or Below-grade Tank Application or Closure	
PRODUCTION AND ADMINISTRATION OF A PRODUCTION AND ADMINISTRATION OF A PRODUCTION AND ADMINISTRATION OF A PRODUCTION AND ADMINISTRATION OF A PRODUCTION AND ADMINISTRATION OF A PRODUCTION AND ADMINISTRATION OF A PRODUCTION AND ADMINISTRATION OF A PRODUCTION AND ADMINISTRATION OF A PRODUCTION AND ADMINISTRATION OF A PRODUCTION AND ADMINISTRATION OF A PRODUCTION AND ADMINISTRATION OF A PRODUCTION AND ADMINISTRATION OF A PRODUCTION AND ADMINISTRATION ADMINISTRATION AND ADMINISTRATION ADMINISTRATION AND ADMINISTRATION AND ADMINISTRATION AND ADMINISTRATION AND ADMINISTRATION AND ADMINISTRATION AND ADMINISTRATION AND ADMINISTRATION AND ADMINISTRATION ADMINISTRATION AND ADMINISTRATION AND ADMINISTRATION ADMINISTRATI	e from nearest surface water_N/A
	uction Material
Tit Latter Titlesmeest State	
12. Check Appropriate Box to Indicate Nature of Notice,	Report of Other Data
NOTICE OF INTENTION TO: SU	BSEQUENT REPORT OF:
PERFORM REMEDIAL WORK PLUG AND ABANDON REMEDIAL WO	
TEMPORARILY ABANDON	RILLING OPNS. P AND A
PULL OR ALTER CASING MULTIPLE COMPL CASING/CEME	NT JOB
OTHER: drill out & add Plugs	
13. Describe proposed or completed operations. (Clearly state all pertinent details, an	d give pertinent dates, including estimated date
of starting any proposed work). SEE RULE 1103. For Multiple Completions: At or recompletion.	mach wellbore diagram of proposed completion
axisting CIBP	Approved for plugging of well bore only.
10/10/11 Tag TOC @ 5,620'	Liability under bond is retained pending receipt of C-103 (Subsequent Report of Well Plugging)
100 STANDER 100 S	which may be found at OCD Was Dans and an
10/11/11 Tbg @ 5,620' - Circ hole w/MLF. Test csg - OK. Spot 50sx cmt @ 5,620'. Δι5ρ (απο ε α το 5 1/3.	Forms, www.cmnrd.state.nm.us.ocd.
11/1 P/o CA.C	L
10/12/11 Perf @ 4,032' - unable to Sqz. Tbg @ 4,082' - Spot 25sx cmt - Tag @ 3,8 Perf @ 3,040' - unable to Sqz. Tbg @ 3,090' - Spot 25sx cmt - Tag @ 2,74	10° Spot 40 St cmt.
10/13/11 Tbg@2,246'-Spot 25sx cmt No tag for OCD, r	
Tbg@ 1.306' - Spot 25sx.cmt/ No tag Ner ocal 0 20	TAPE WHITE
Tbg @ 1,306' - Spot 25sx cmt - Tag @ 200'	1 2 2/22
Perf @ 100' - Circ 50sx cmt to surface. RDMO. Cutoff	H, denenors, crear
location. Install dry hole marke	2 r ·
I hereby certify that the information above is true and complete to the best of my knowledge	e and belief. I further certify that any pit or below-
grade tank has been/will be constructed or closed according to NMOCD guidelines , a general permit	or an (attached) alternative OCD-approved plan .
SIGNATURE TITLE P & A Technician (E	Basic Energy Services) DATE 10-18-11
Type or print name: Greg Bryant E-mail address:	Telephone No. 432-563-3355
Sell South as	
ADDDOVED DV. / W	02 0-75-7011
	DATE 0-25-2011
Conditions of Approval (if any):	DATE 0-25-2011

Submit 3 Copies To Appropriate District Office	State of New M			Form C-103
District I 1625 N. French Dr., Hobbs, NM 88240	Energy, Minerals and Nat	WELL API NO.	May 27, 2004	
District II	OIL CONSERVATION	DIVISION	WELL ATTIO.	30-025-06614
1301 W. Grand Ave., Artesia, NM 88210 District III	1220 South St. Fra		5. Indicate Type	
1000 Rio Brazos Rd., Aztec, NM 87410 District IV	Santa Fe, NM 8		STATE 6. State Oil & G	
1220 S. St. Francis Dr., Santa Fe, NM 87505		2.35	o. State Off & O	as Lease 140.
(DO NOT USE THIS FORM FOR PROPO	ICES AND REPORTS ON WELL: SALS TO DRILL OR TO DEEPEN OR PL CATION FOR PERMIT" (FORM C-101) F	UG BACK TO A	7. Lease Name of Northeast Drink	or Unit Agreement Name ard Unit
1. Type of Well: Oil Well	Gas Well Other		8. Well Number	601
Name of Operator Apache Corp	poration		9. OGRID Num	ber 00873
3. Address of Operator 6120 Sou Tulsa, Of	th Yale, Suite 1500		10. Pool name o	r Wildcat
	74136-4224		Eunice Blinebr	y - Tubb - Drinkard - North
4. Well Location	660	000		176901
Unit Letter D :	660 feet from the South			om the West line
Section 15	Township 21S R 11. Elevation (Show whether DR	ange 37E	NMPM	CountyLea
多。数"急"是"	3459' GR	, KKD, KI, OK, etc.)		
Pit or Below-grade Tank Application 🔲 o	r Closure 🗌			The state of the s
Pit typeDepth to Groundw	aterDistance from nearest fresh	water well Dista	ance from nearest sur	face water
Pit Liner Thickness: mil	Below-Grade Tank: Volume	bbls; Co	nstruction Material	
12. Check	Appropriate Box to Indicate N	Nature of Notice, 1	Report or Other	Data
NOTICE OF IN	ITENTION TO:	SUBS	SEQUENT RE	PORT OF
PERFORM REMEDIAL WORK	PLUG AND ABANDON	REMEDIAL WORK		ALTERING CASING
TEMPORARILY ABANDON	CHANGE PLANS	COMMENCE DRII		P AND A
PULL OR ALTER CASING	MULTIPLE COMPL	CASING/CEMENT	JOB 🖾	
OTHER:		OTHER:		П
 Describe proposed or comp of starting any proposed wo 	leted operations. (Clearly state all ork). SEE RULE 1103. For Multip	pertinent details, and le Completions: Att	give pertinent dat	es, including estimated date
or recompletion.				
Isolate 5-1/2" casing leak, 4942' - 4 Pulled out of retainer. Set cmt retain	ner @ 4880'. Squeeze casing leak w	ith 350 sxs Class C	Set nacker @ 532'	7' Test someone to 500
psi. Did not hold. Test backside to :	500 psi, held ok. Set retainer @ 532	0' and squeeze with	50 ex Clase C w/ C	COL + 150 ex Close C
Neat. Test squeeze ok. Acidize Blir production.	lebry/1 ubb with 5200 gals 15% HC	L. Acidize Drinkard	with 3000 gals 15	% HCl. Return to
•			10000	
			19	
			AN 2005	E SO
			(c) * 25	199
			\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	ن من
			1:	- 57
			105.	
			100	08.0
I hereby certify that the information	shove is true and complete to the b			
I hereby certify that the information a grade tank has been/will be constructed or	closed according to NMOCD guidelines	a general permit ☐ o	and belief. I further an (attached) altern	er certify that any pit or below- ative OCD-approved plan [].
SIGNATURE Shawe I	TITLEEn	gineering Technician		DATE 01/12/2005
Type or print name Elaine Linton	E-mail ad	dress:elaine.linton@	apachecorp comic	elephone No. (918)491-5362
For State Use Only	The state of the s			repriore 110. (710)471-3302
APPROVED BY: Januar). WIND THELD REPRES	ENTATIVE IL/STAFF	MANAGER	DATE
Conditions of Approval (if app):	TILE_			JAN 1 4 2005
U				JAN 1 4 2005

Cistrict I P O. Box 1980, Hobbs, NM 88241-1980

State of New Mexico

Energy, Minerals and Natural Resources Department

Form C-104 Revised February 10, 1994

District II
P.O Drawer DD, Artesia, NM 88211-0719

Insturctions on back Submit to Appropriate District Office

Drawer DD, Artesia, NI	M 88211-0719	OIL		RVATION D. Box 2088	DIVISION				Submit to Apprepri	5 Copie
Rio Brazos Rd., Azlec	c, NM 87410								AMEND	ED REPOR
ct IV] AMEND	EDICTION
Box 2088, Santa Fe, I	NM 87504-2088	507 50D ALI	OMARII	E AND ALL	HORIZATION	TO TE	ANSPO	ORT		
Operator name and A		EST FOR ALL	OVVABL	E AND AUT	HORIZATION	, OG	RID Number			
Apache Corp					_	-	00873			
2000 Post O	ak Blvd, Su	te 100					eson for Film		10	
Houston, TX	77056-440	0				C	G effect	Pool Code	38	
API Number 30-025-0661	4	Funice Bline	bry-Tubb	-Drinkard-N	orth			22900		
Property Code	-	⁸ Property Name						,		
22503		Northeast D	rinkard U	nit				601		
	Surface Lo		Range	Lot Idn	Feet from the	North/So	uth line	Feet from the	East/West line	County
Ut or lot no.	Section 15	Township 21S	37E	Lot, idit	660	S	1727-2730	990	W	Lea
	Bottom Ho									
Ul or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/So	uth line	Feet from the	East/West line	County
			W C+-C+	nnection Date	C-129 Permit Number	16 29	Effective Da	te	C-129 Exp	piration Date
Lse Code		Method Code	Gas Co	rinection Date	O-1237 Ellim (101104)					
			715	***************************************		N.	2004445			
Transporter		W Transporter Name		P	POD	71 C/G		22 POD ULST and Design		
037480	FOTT En	ergy Pipeline L	P		2264710	0 /	A, Sec 2	, T21S-R3		
037400	P O Box 4		TO .		2012/50/0305	N	EDU C	entral Batte	ery	
reterior de la companya de la companya de la companya de la companya de la companya de la companya de la compa	Houston .	TX 77210-466	66			4 70				
024650	Warren P				2264730	G				
	P O Box 1	589								
	Tulsa, OK	74102								
022628	Texas-Ne	w Mexico Pipe	line Co		2264710	0				
	P O Box 5	568 TA			W. C. C. C. C. C. C. C. C. C. C. C. C. C.					
		O 80217-557								
020809		rdson Gasoline			2264730	G				
		St., Suite 300	J	1						
/ Produced V		TX 76102								
POD	Vater	0-1-11-11		34 POD ULSTR L	ocation and Description					
2264750	A, Sec 2,	T21S-R37E								
. Well Compl	letion Data			יין דוס	7	PETD		29	Perforation	15
N Spud Date		36 Ready Date		** 10		7010				
NO HO	ole Size	1	Casing & Tut	ning Size	11	Depth Set			33 Sacks Cement	
					-					
								_		
		-								
Well Test D	Data				SI				30 Cen	Pressure
Date New Oil	36 Gas	Delivery Date		Test Date	37 Test Length		Tbg Pres	- I	-	
40 Choke Size	41	Dil	10	Water	49 Gas	-	AOF		45 Tes	st Method
										Р
⁴⁶ I hereby certify the	at the rules of the C	Oil Conservation Division	n have been co	mplied		OIL C	ONSER	RVATION I	DIVISION	
th and that the inform nowledge and belief	ation given above	is true and complete to	the pest of my	j				015/62/2	,	
	10.	(0 V.	,		Approved by:	ORIG	INALS	IGNED BY	•	
ignatura Parue	de M.	Light	2		Trie.	-	GARY I	WINK		
rinted Name: Pamela M.		U			1					
Fairleia W.	Leigitton				Approval Date C	EP 2	4 195	18		
THE RESERVE OF THE PERSON NAMED IN COLUMN 2 IS NOT THE OWNER.						feet "	- 149)	P-07		
Regulatory	Analyst									
Regulatory		Phone 713-296-7	120							
Regulatory 9/4/98		Phone. 713-296-7		revious operator						

OIL CONSERVATION COMMISSION Santa Fe, New Mexico

REQUEST FOR (OIL)-(GAS) ALLOWABLE

It is necessary that this form be submitted by the operator before an initial allowable will be assigned to any completed oil or gas well. Form C-110 (Certificate of Compliance and Authorization to Transport Oil) will not be approved until Form C-104 is filed with the Commission. Form C-104 is to be submitted in triplicate to the office to which form C-101 was sent. Two copies will be retained there and the other submitted to the Proration Office, Hobbs. New Mexico. The allowable will be assigned effective 7:00 a.m. on date of completion, provided completion report is filed during month of completion. The completion date shall be that date in the case of an oil well when oil is delivered into the stock tanks. Gas must be reported on 15.025 P.B. at 60° Februaheit.

Becs. 547, He	bbs, New Me	rdeo	May 1 1952
AL ASE HERERY	REQUESTING	AN ALLOWABLE FOR A WELL KNO	OWN AS:
11. VIG. 117 VG3174	14.4.12011.10		
Tide Water	ny or Opera	tor State MSB Ne.	11 No. 7 in 25 1/4 W 1/4
			son Pool Les County
1-1-1 (0)1	. 1	III. James III.	
lease indica	te location	Elevation 34591 Spu	dded 2-20-52 Completed 1-27-52
		Total Depth	P.B
x		Top Oil/Gas Pay 79881 Initial Production Test:	Pump Flow ROPD on G
		Based on 160.95 Bbls. Oil	
			auge, arouge muter run)
		Size of choke in inches	
	4		
			8055 Leet
***		Pressures: Tubing 325	paige (asin: Packer set @ 7924
		Gas Gil Ratio 1076 casi	ng Perforations:
	A 1000 F	79881 to 80561	
tnit letter:	D	Acid Record:	Show of Oll.Gas and water
asing & Ceme	nting Recor	d 5000 Gals 7988 to_	8056 - S. 011
Size Fe	et Sax_	Gals to	
20.0/0 0	93 300	Shooting Record.	8
13 3/8 2	75 300	Ots to	S
8 5/8 29	90 1700	Qtsto	s _/
0 2/0 2/	/ <u>+</u>	to	S/
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lease indica	ite below to	rmation Tops (in conformance	with geographical section of state)
	Southeas	tern New Mexico	Northwestern New Mexico
. Anhy		T. Devonian	T. Ojo Maro
. Salt		T. Silurian	
. Salt		T. Montoya	T. Farmington
. Yates	6 8000	T. Simpson 73691	T. Pictured Cliffs
. 7 Rivers	=	T. McKee 75761	T. Cliff House
. Green		T. Ellenburger 7976	T. Point Lookout
. Grayburg	00001	T. Gr. Wash	T. Mancos
. San Andres . Glorieta		T.	T. Dakota
. Drinkard	5181	T.	T. Morrison
I. Tubbs	63.551	T. Compell 79031	T. Peun
T. Abo	0733	Т	T
L. Penn	11.	. T	T
T. Wiss		T. 2.D. 83.50	T.

SIZE OF HOLE	SIZE OF CASING	WHERE SE	NO. SACKS OF CEMENT	METHODS USED	MUD GR	AVITY	AM	OUNT OF MUD USED
174"	13-3/8	293	300	Halliburton	Na tiv			
117	8-5/8	2990	2000	Б	Nativ	G		
6-3/4	52	8142	350	п	9.34/	gal.		
- 2/4	(51		mung in 8-5/8	easing 284	7)			
Heaving Adapters	plug—Ma	terial		PLUGS AND ADA Length	h . Size	••••••		
SIZE	SHEL	L USED	EXPLOSIVE OR CHEMICAL USEI		DATE		H SHOT REATED	DEPTH CLEANED OUT
5122		second second	15% Regular A		4-26-52	7988	- 8056	1
*****			row magniture, w	era Non Bare	(perf. i			1
		-			(F	- 2		i
		er special t	ests or deviation su	ırveys were made, sı	ibmit report on	separate	sheet and	d attach hereto.
Rotary t	tools were	used from	Q fee	TOOLS USE 8145 t to	D feet, and from		fee	t tofee
Cable to	cools were	used from	• fee	t to PRODUCTIO	D feet, and from feet, and from		fee	t tofee
Cable to	cools were to	used from used from	• fee	t to PRODUCTIO	D feet, and from feet, and from		fee	t tofee
Cable to Put to p	cools were tools were too	used from	fee fee	TOOLS USE 8145 t to PRODUCTIO 19 52	feet, and from feet, and from N	nich 10	fee	t to fee
Cable to Put to put The pro emulsion	cools were upools were uporoducing	used from	fee fee fee fee fee fee fee fee	TOOLS USE 8145 t to PRODUCTIO 19 52 37.71 barre% sediment. Gra	feet, and from feet, and from Non ls of fluid of what with the second	nich 10	fee	t to fee
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Cable to Put to put The pro emulsion If gas w Rock pr	cools were upon on the cools were upon outling and duction of the cools were upon outlined to	the first 2 was per 24 hour, per sq. in Griffi Gaston	fee fee fee fee fee from form form form	TOOLS USE 8145 t to PRODUCTIO 19 52	feet, and from feet, and from N Is of fluid of where with the second s	1,000 cu.	fee fee	was oil;
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Cable to Put to p The pro emulsion If gas w Rock pr	cools were to cool we were to cool with the cools were to cool we were to cool	the first 2 was per 24 hour, per sq. in Griffi Griffi Griffi determined	fee fee fee fee fee fee fee fee fee fee	TOOLS USE 8145 It to PRODUCTIO 19 52 27.71 barro Gallo Gallo Driller Driller Driller CATION RECORD Of iven herewith is a cords.	feet, and from feet, and from feet, and from feet, and from feet, and from feet, and from feet, and from feet, and from feet, and from feet, and from feet, and from feet, and from feet, and from feet, and from feet, and from feet, and from feet, and from feet, and from feet, and from feet, and from feet, and from feet, and from feet, and from feet, and from feet, and from feet, and from feet, and feet,	1,000 cu. 1,000 cu. R. Robbs Place	fee fee	was oil;
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NEW MEXICO OIL CONSERVATION CC. MISSION

MISCELLANEOUS REPORTS ON WELLS

Submit this report in triplicate to the Oil Conservation Commission District Office within ten days after the work specified is completed. It should be signed and filed as a report on beginning drilling operations, results of shooting well, results of test of casing shut off, result of plugging of well, and other important operations, even though the work was witnessed by an agent of the Commission. See additional instructions in the Rules and Regulations of the Commission.

Indicate natur		tules and Regulations		
	e of repo	ort by checking below.		
DDU LING		REPORT ON RE	PAIRING WELL	
REPORT ON BEGINNING DRILLING OPERATIONS		antonosaneron mesocemen	LLING OR OTHERWISE	
REPORT ON RESULT OF SHOOTING CR CHEMICAL TREATMENT OF WELL		ALTERING (CASING	
REPORT ON RESULT OF TEST OF CASING SHUT-OFF	x	REPORT ON DE	EPENING WELL	_
REPORT ON RESULT OF PLUGGING OF WELL				
March 4, 195	2	Bex 547, Hel	bs, New Mexico	
Following is a report on the work done and the results	-lanimad	45-7153	ed above at the Tide . Wa	ter
Following is a report on the work done and the results	obtained	MASS	7	in the
Associated Oil Co. Company or Operator	State	Lease	Well No	
my// of Ma// of Sec		, T	, R	., 24. 24. 2 . 22.,
De-1	**********	Lea		County.
The dates of this work were as follows:	Calaman	20 1952		
We set 8-5/8" casing at 29 8-5/8" casing is 160' from surfa 30 min.	001 - 11	LL COOO also come	ant top coment beh	ind r
Witnessed by K. Hogus Name	Water	Associated Cil	Co. Head Ro	

NEW MEXICO OIL CONSERVATION COMMISSION

MISCELLANEOUS REPORTS ON WELLS

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		REPORT ON REPAIRING WELL	i i
REPORT ON BEGINNING DRILLING OPERATIONS		KEPOKI ON KEPAKING WEEL	
REPORT ON RESULT OF SHOOTING CR CHEMICAL TREATMENT OF WELL		REPORT ON PULLING OR OTHERWISE ALTERING CASING	!
REPORT ON RESULT OF TEST OF CASING SHUT-OFF	x	REPORT ON DEEPENING WELL	1
REPORT ON RESULT OF PLUGGING OF WELL			ļ
Following is a report on the work done and the results Associated Oil Co. State #2 Company or Operator	obtained (Lease Well No 7	i er in th
Following is a report on the work done and the results Associated Oil Co. State #2 Company or Operator	obtained (ander the heading notes above at the Tide Wat Well No 7.	i er in th
Following is a report on the work done and the results Associated Oil Co. State **C Company or Operator NW/4 of NW/4 of Sec. 15	obtained i	ander the heading notes above at the Tide Wat Well No 7.	in th.
Following is a report on the work done and the results Associated Oil Co. State **C Company or Operator NW/4 of NW/4 of Sec. 15	obtained :	made the heading notes above at the Tide Water Well No. 7 Lease T. 21-S R. 37-E	in th
Following is a report on the work done and the results Associated Oil Co. State #6 Company or Operator NW/4 of NW/4 of Sec. 15 Brunson Pool Lea	obtained to	mader the heading notes above at the Tide Water Well No. 7. Lease T. 21-S R. 37-E	in th
Following is a report on the work done and the results Associated Oil Co. State #6 Company or Operator NW/4 of NW/4 of Sec. 15 Brunson Pool Is The dates of this work were as follows: April 21 Notice of intention to do the work was (process) submand approval of the proposed plan was (process)	abtained to the state of the st	Date Place Indice the heading note; where it is. Tide Wei Well No. 7 Lease , T. 21-S R 37-E Form C-102 on April 19, s out incorrect words.)	in th
Following is a report on the work done and the results Associated Oil Co. State #6 Company or Operator NW/4 of NW/4 of Sec. 15 Brunson Pool Is The dates of this work were as follows: April 21 Notice of intention to do the work was (process) submand approval of the proposed plan was (process)	abtained to the state of the st	Date Place and the beading notes about the Tide Water Well No 7 Lease T 37-E T 37-E T 37-F T 4 April 19,	in th

Witnessed by. E. W. Hogue Name	Associated Oil Company Head Roustabout
APPROVED: OIL CONSERVATION COMMISSION	I hereby swear or affirm that the information given above is true and correct.
Roy yarhrays	Name & P. c. Macagar H.P. Shackelford
A promspector	Position District Foreman
) Title	Representing Tide Water Associated Oil Co.
	Address Box 547, Hobos, New Mexico

AREA 640 ACRES

NEW MEXICO OIL CONSERVATION COMMISSION Santa Fe, New Mexico

WELL RECORD

Mail to Oil Conservation Commission, Santa Fe, New Mexico, er its proper agent not more than twenty days after completion of well. Follow instructions in the Eules and Regulations of the Commission. Indicate questionable data by following it with (?). SUBMIT IN TRIPLICATE. FORM C-110 WILL NOT BE APPROVED UNTIL FORM C-105 IS PROPERLY FILLED OUT.

	Company or Opera	tor	~ 7	_NW/4	Box 547,	15 de la constante de la const	,	21-S
			100 march 100 ma			-		
37-E Lease, N.	M. P. M.,	DT-ONIOCE	L 	Field,			3.5	County.
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State land the oil an	d gas lease is N	10		Assigi	ment No	ddnarr	***********	
patented land the o	wner is				, A	uaress		
Government land th	e permittee is		- 2 047 /		, A	ddress	r 340h	Houston, 1. Texa
ne Lessee is	e Water As	8061.AT	90 OTT (Capany	, А	ddress	<i>Ŀ</i> -20	Houston, 1, Texa
ne Lessee is	2-20-		19.24	Drillin	ng was completed	1	مع ادرا	19
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7777	Spiral Well		29971	STORA BLALLA				
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3-3/8" 36# 8-5/8"24 & 32#	881		29971					Production Stri

LAB Orde	er ID#																											Pa	ige_	1		of_	1	1
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Contact Per	SON: UTANIL	E /	PEI	O G		172	E-1	mail:		AV	P/4	1E	e 9.	364	-	Au C	ON				200.7	20								Alkalinity	12			lard
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LAB # (LAB USE)	FIELD CODE	CONTAINERS	Volume / Amount	WATER			SLUDGE	HCI	HNO3		NaOH	ICE GO	NONE	DATE		TIME	8021	BTEX 8021 / 602 / 8260 / 624	TPH 8015 GRO / DRO / TVHC	PAH 8270 / 625	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010/200.7	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI GC/MS Val 8260 / 824	GC/MS Semi. Vol.	PCB's 8082 / 608	Pesticides 8081 /	BOD, TSS, pH Moisture Conter	CI, F. SO ₄ , NO ₃ -N, NO ₂ -N,	Na, Ca, Mg, K, TDS,	100		Turn Around Time if different from standard
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71me:

INST 1/5 OBS-O.

Carrier#

Date:

Company:

Received by:

Date:

Time:

LAB COPY

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

Company:

Relinquished by:

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

Appendix C- Area of Review

- AOR Well Status List
- AOR Aerial Map

2014 BW-28 AOR Review-- Well Status List up-dated April 26, 2015

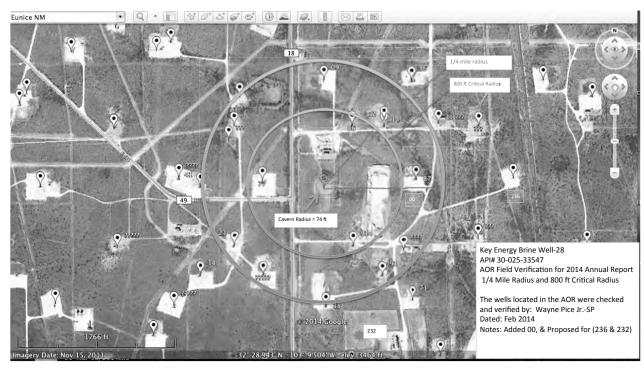
				_	_		Within 1/4 mi AOR		Casing Program	Cased/Cemented	Corrective Action
API#	Well Name	UL	Section	Ts	Rg	Footage	* within 800 ft		Checked	across salt section	Required
20 025 22547	K State 001	-	15	21-	27-	1240 FMI # 220 FMI	NA		NA		
<u>30-025-33547</u> 30-025-06591	Key-State no.001 Apache NEDU 604	<u>E</u> E	<u>15</u> 15	21s 21s	37e 37e	1340 FNL & 330 FWL 2310 FNL & 990 FWL	yes	1	NA no	Will check if critical radius approaches	Will check if critical radius approache
30-025-09913 (P&A)	Shell NEDU 603	F	15	215	37e	3390 FSL & 4520 FEL	yes Yes*	1 1			no
30-025-09913 (P&A) 30-025-09914	Apache NEDU 603	F	15	21s 21s	37e	1980 FNL & 660 FWL	Yes*	1 1	yes	yes	no no
30-025-09914	Apache NEDU 602625	Ē	15	21s	37e	2580 FNL & 1300 FWL	no res		yes na	yes na	na
		F			37e			0 0			
30-025-37223 Never Drilled **	Apache NEDU 628 Apache NEDU 544	E	15 15	21s 21s		1410 FNL & 380 FWL 1355 FNL &1190 FWL	Never Drilled		na Yes	na	na
30-025-41600 (in Production 2014)		E	15	21s 21s	37e 37e	1640 FNL & 1300 FWL	yes	0 1		yes	no
30-025-42237 (proposed)	Apache NEDU 648	E	15	215	37e	1640 FNL & 1300 FWL	yes	0 1	na	na	na
30-025-06609	Chevron St. 002	С	15	21s	37e	660 FNL & 1980 FWL	no		na	na	na
30-025-06611	Chevron St. 004	C	15	21s	37e	660 FNL & 2080 FWL	no		na	na	na
30-025-06613	Apache NEDU 605	č	15	21s	37e	760 FNL & 1980 FWL	no		na	na	na
30-025-34649	Apache NEDU 622	č	15	21s	37e	1229 FNL & 2498 FWL	no		na	na	na
30-025-34886	Apache NEDU 524	Č	15	21s	37e	160 FNL & 1350 FWL	no		na	na	na
30-025-39831(added 2010)	Chevron State S no. 2	Č	15	215	37e	990 FNL & 1330 FWL	yes	1	no	Will check if critical radius approaches	Will check if critical radius approach
30-025-34887	Apache NEDU 624	č	15	21s	37e	1250 FNL & 1368 FWL	yes	1	no	Will check if critical radius approaches	Will check if critical radius approach
30-025-41485	Brammer Engr. St No 12	c	15	215	37e	990 FNL & 1330 FWL	yes	- 1	yes+++	yes	no
30-025-41583	Apache NEDU 661	č	15	215	37e	1240 FNL & 1930 FWL	no		na	yes na	na
30-025-41598	Apache NEDU 558	c	15	21s	37e	150 FNL & 2295 FWL	no		na	na	na
50 025 41570	Apacite NEDO 000			213	0,0	1501142 0 22751442	110		nu .	TIG.	110
30-025-06586	Chevron St. 001	D	15	21s	37e	660 FNL & 660 FWL	yes*	1 1	yes	yes	no
30-025-06612	Chevron St. 005	D	15	21s	37e	660 FNL & 990 FWL	yes	1	yes	yes	no
30-025-06614	Apache NEDU 601	D	15	21s	37e	600 FNL & 990 FWL	yes	1	yes	yes	no
30-025-36809	Apache NEDU 526	D	15	21s	37e	130 FNL & 330 FWL	yes	1	no	Will check if critical radius approaches	Will check if critical radius approac
30-025-06585	4	F	15	21s	37e	1980 FNL & 1980 FWL	no		na		
30-025-06585	Apache St. 002 Apache NEDU 606	F	15	215	37e	3375 FSL & 3225 FEL	no no		na na	na na	na na
		F									
30-025-06590	Apache NEDU 608	F	15	21s	37e	1980 FNL & 1880 FWL	no		na	na	na
30-025-41275	Apache NEDU 650	F	15	21s	37e	2550 FNL & 1925 FWL	no		na	na	na
30-025-42236 New	Apache NEDU 647	F	15	21s	37e	1710 FNL & 2360 FWL	no		na	na	na
30-025-06603	Apache Argo 006	K	15	21s	37e	1650 FSL & 2310 FWL	no		na	na	na
30-025-06607(added 2010)	Apache Argo 011	K	15	215	37e	2080 FSL & 1650 FWL	no		na	na	na
30-025-09918	Apache NEDU 703	K	15	21s	37e	1980 FSL & 1980 FWL	no		na	na	na
30-025-39828	Apache Argo 14	K	15	21s	37e	2190 FSL & 2130 FWL	no		na	na	na
30-025-34657	Apache NEDU 623	K	15	21s		2540 FSL & 2482 FWL	no		na	na	na
50 025 54057	Apacite NEDO 025			213	570	2540152 4 24021112	110		nu .	TIG.	110
30-025-06606	Apache Argo 010	L	15	21s	37e	1880 FSL & 760 FWL	no		na	na	na
30-025-09915	Apache Argo 007	L	15	21s	37e	2310 FSL & 990 FWL	no		na	na	na
30-025-09916	Apache NEDU 701	L	15	21s	37e	1980 FSL & 660 FWL	no		na	na	na
30-025-34888	Apache NEDU 713	L	15	21s	37e	1330 FSL & 1142 FWL	no		na	na	na
30-025-37238	Apache NEDU 629	L	15	21s	37e	2630 FSL & 330 FWL	yes	1	no	Will check if critical radius approaches	Will check if critical radius approach
30-025-42232 Proposed	Apache NEDU 639	L	15	21s	37e	1960 FSL & 740 FWL	no		na	na	na
20.005.04400	A I . MPDU 057			04	07	//O FMI A //O FT		1		AND A STATE OF THE	1400 - 1 - 1 - 2 1 - 1 - 2 1 - 1 1 1 1 1 1 1 1 1 1 1 - 1 1 1 1 1 1 1 1 1 1 1 - 1 1 1 1 1 1 1 1 1 1 1 - 1 1 1 1 1 1 1 1 1 1 1 - 1 1 1 1 1 1 1 1 1 1 1 - 1 1 1 - 1 1 1 - 1 1 -
30-025-06623 30-025-25198	Apache WBDU 057 Chevron HLNCT 006	A	16	21s 21s	37e 37e	660 FNL & 660 FEL 330 FNL & 600 FEL	yes	1	no	Will check if critical radius approaches	Will check if critical radius approac
		A	16				no		no	na	na
30-025-39277	Apache WBDU 113	A	16	21s	37e	1290 FNL & 330 FEL	yes*	1 1	yes	yes	no
30-025-06621	Apache WBDU 056	Н	16	21s	37e	1980 FNL & 660 FEL	yes	1	no	Will check if critical radius approaches	Will check if critical radius approac
30-025-06624	Chevron HI NCT 005	н	16	215	37e	2310 FNL & 330 FFL	yes	1	no	Will check if critical radius approaches	Will check if critical radius approac
30-025-06024	Chevron HLNCT 003	H	16	21s	37e	1330 FNL & 1070 FEL	no		na	na	na
30-025-37834	Chevron HLNCT 007	H	16	21s	37e	2310 FNL & 030 FEL	yes	1	no	Will check if critical radius approaches	Will check if critical radius approac
50 525 57554	SICVIOII ILITOT 000			213	5,0		yes			and a mountained applicables	s. seek ii eritiedi radida approac
30-025-06617	Apache St. DA 005	- 1	16	21s	37e	1980 FSL & 330 FEL	no		na	na	na
30-025-06617 30-025-06619	Apache St. DA 005 Apache WBDU078	- 1	16 16	21s 21s	37e 37e	1980 FSL & 330 FEL 1980 FSL & 660 FEL	no no		na na	na na	na na

45 Total # of wells in adjacent quarter-sections
18 Total # of wells in 1/4 mile AOR
4 Total # of wells that are or have become within 800 ft of the outside radius of the brine well.

Notes:

* Means the well is within the calculated Critical outside radius of the brine well and casing program will be checked annually. The Critical Radius of Review is 10x the calculated brine well radius.

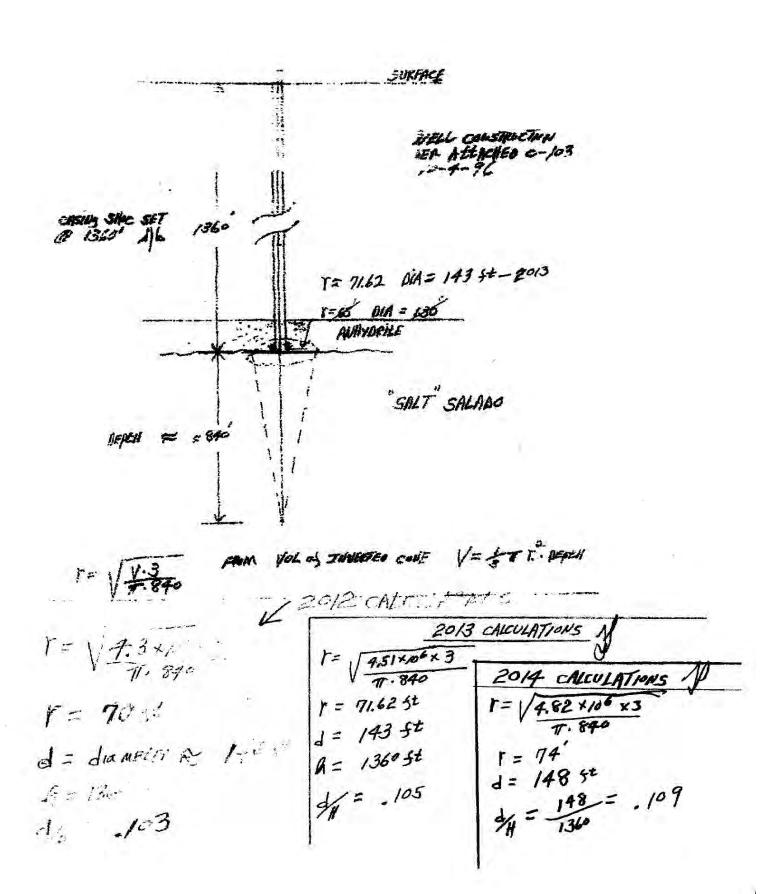
** API # 30-025-37223 not drilled too close to Brine Well
"+++checked casing 1000 8x for 714 ft3 ok between 7-5/8 and 5.5 covers salt section
2014- 600 & 913 were not actually in Critical radius and was removed until radius encludes them.



Field Notes: Last two or three well digits are the last number for the Well API#.

Appendix D-

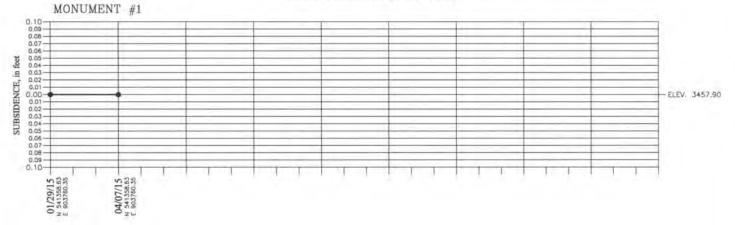
- Cavity Calculations
- Cavern Well Bore C-103



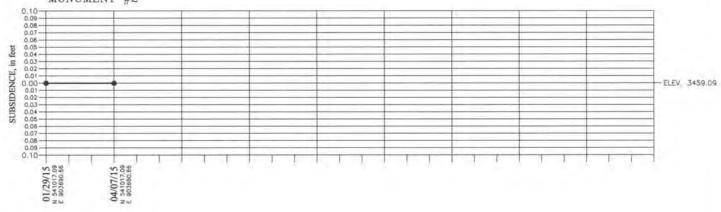
Appendix E- Subsidence Reports

VERTICAL SUBSIDENCE TABLE KEY ENERGY SERVICES, LLC. - STATE #1

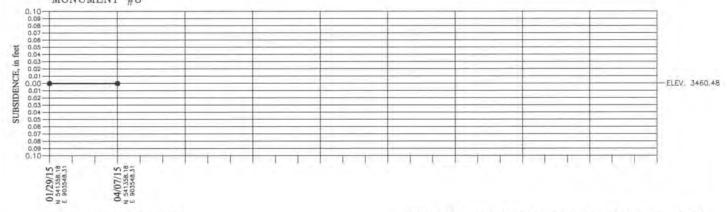
NEW MEXICO EAST NAD 83



MONUMENT #2



MONUMENT #3



SURVEYORS CERTIFICATE

I, TERRY J. ASEL, NEW MEXICO PROFESSIONAL SURVEYOR NO. 15079, DO HEREBY CERTIFY THAT I CONDUCTED AND AN RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS, MEX. TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND MEETS THE "MINIMIUM STANDARDS FOR SURVEYING IN NEW MEXICO" AS ADOLTED BY WARMEN. SURVEYING IN NEW MEXICO" AS ADOPTED BY THE NEW 15079 MEXICO STATE BOARD OF REGISTRATION FOR

THE PAOTESSIONAL PROFESSIONAL ENGINEERS AND SURVEYORS

Asel Surveying

Terry J. Asel N.M. R.P.L.S. No. 15079

P.O. BOX 393 - 310 W. TAYLOR HOBBS, NEW MEXICO - 575-393-9146

BASIS OF ELEVATIONS: US C & GS BENCH MARK "L-98 1935" - CV0320 ELEV. = 3434.37

ENERGY SERVICES, LLC.

SUBSIDENCE MONITORING FOR THE KEY ENERGY SERVICES, LLC. - STATE #1 WELL IN SECTION 15, TOWNSHIP 21 SOUTH, RANGE 37 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO

Survey Date: 04/07/15	Sheet 1 o	f 1 Sheets	
W.O. Number: 150129MS-b	Drawn By: KA	Rev:	
Date: 04/28/15	150129MS-b	Scale:1"=1000'	

Appendix F – Closure Cost Estimate

Appendix "F"

2014 Annual Report BW-28 Key Energy Closure Cost

Key Energy Rig \$25,000

Halliburton Cement Job \$7,500.00

Post Subsidance Monitoring 5 y \$15,000.00

Tank Removal, Pad Clean-Up \$25,000.00

Consulting fees \$15,000.00

Total Estimate \$87,500

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APPENDIX C C-141 SPILL REPORT AND PHOTOS

APPENDIX D MIT TEST CHART

APPENDIX E BRINE CAVITY CALCULATIONS

APPENDIX F AREA OF REVIEW

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 2011 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, a C-103 is normally not required. However, Key Energy submitted a C-103, which has been included in the MIT Section IV-Appendix D.

General housekeeping was routinely performed and 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 E shows drawings and data of recent installed subsidence survey markers).

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

Appendix A has a recent aerial photo of the site for reference.

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. Key is anticipating it may 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 2011 brine production volume was 222,286 bbls and the lifetime production volume is 3,989,782 bbls.

Enclosed in the tables section of the report is the injection and production table 1. and the 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* the latest chemical analysis and chain-of-custody of the brine and fresh water injection water samples collected October 19, 2011 and analyzed by Cardinal Laboratory in Hobbs, NM. 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.

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.

The specific gravity of the brine water was 1.13, which equates to 9.4 lb/gal. This is lower than the usual 10 lb/gal normally produced. This was attributed to the fact that during the test in September, most of the brine water was sold leaving only fresh water for the MIT "Open to Formation Test." This loaded the hole with a large amount of fresh water and the well had not recovered from this event.

To compensate for this, next years test may be ran using nitrogen.

Special Note: The laboratory misread the Chain-of-Custody and mislabeled the Eunice Brine Well as "GUINI" Brine Well.

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 2011, 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 annulus and producing brine up the tubing; to injecting fresh water down the tubing and producing brine up the annulus.

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 2011 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 2011 there was one reportable leaks or spills. A Bronco Services truck operator fell asleep while loading his truck and accidently released approximately

100 bbls of brine water, which ran off the loading pad just north of the pad and was contained on-site by the installed stormwater berms. 40 bbls were recovered and a C-141 was submitted to the OCD Hobbs office, with a copy to the Santa Fe office. Remediation corrective action is underway and when complete, a closure report will be submitted to both the Hobbs and Santa Fe offices for final approval. **Appendix C** contains a copy the initial C-141 spill report and photos showing remediation efforts.

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 workgroup, 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 3.98 million barrels of brine produced as of December 2011. The maximum diameter was calculated to be approximately 136 feet with a corresponding D/H ratio of .10 updated for the 2011 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 the first annual results are documented in *Appendix E*.

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 and AOR plot plan 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 2011 review, there were no new wells added to the list. **Appendix F** contains the check-off list showing the OCD wells in all adjacent quarter sections surrounding the BW-28 brine well.

As in 2010, there are 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. 136 ft (r = 68 ft) up-dated for 2011, 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.

All four wells located in the critical zone were reinvestigated by checking the OCD on-line well records. There was no well activity for any of these wells reported since the last 2010 review. **Appendix F** contains the last recorded file record for the four wells located in the critical AOR. They are identified as API# 30-025-914, 09913, 06586, and 39277.

This 2011 report includes the investigation of two more wells that are nearest the 660ft critical AOR and within the ¼ mile AOR that have not been investigated. These wells are identified as API # 30-025-06612 and 06614. Every year as the well bore grows additional wells may be added.

The Findings are as follows:

API # 30-025-06612: Chevron State #5, according to OCD records, is located 660 FNL & 990 FWL of UL D Section 15-Ts21s-R37e. It is shown to be located approximately 900 ft to the NE of the BW-28 well. This well was drilled in 1951 with surface casing set at 294 ft and cemented with 300 sacks circulated to surface. Intermediate casing was set at 2974 feet and cemented with 2000 sacks circulated to surface. A long string was ran and set at 8147 feet and cemented with 500 sacks with an estimated top at 2570 feet. There appears to be approximately 400 feet of cement above the bottom of the intermediate string.

It was recompleted as a gas well in the Grayburg at 3841-51 feet.

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 # 30-025-06614: Apache NEDU 601, according to OCD records, is located 600 FNL & 990 FWL of Section 15-Ts21s-R37e. It is shown to be located approximately 950 ft to the NE of the BW-28 well. This well was drilled in 1952 with surface casing set at 293 feet bgl and cemented with 300 sacks. Intermediate casing was set at 2990 feet and cemented with 2000 sacks. A long string was ran and set at 8142 feet and cemented with 350 sacks. The well was plugged and abandoned in October of 2011.

<u>Conclusions:</u> 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.

The well records, for the two afore mentioned wells, is included in Appendix F.

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 Senior Vice President – Fluids Management Services

TABLES

TABLE 1

TABLE 1 2011 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 Freshwater Injection (bbls)	Quarterly Freshwater Injection (bbls)	Annual Freshwater Injection (bbls)	Comments	Operator
1996	October	10,588			10,588				Goldstar SWD
	November	17,770			17,743	0.000	1000		
1007	December January	32,223	60,581	60,581	33,004	61,335	61,335		
1997	February	20,194			20,445	-		estimate (1)	
	March	20,194	50 F02		20,445	24 225		estimate (1)	
_	April	20,194	60,582	4	20,445	61,335		estimate (1)	
	May	48,226 38,000		1	47,714				
	June	47,970	134,196		36,571 42,264	126 540		-	
-	July	24,711	134,130		24,271	126,549		_	
	August	31,817	1 1 1 1 1		31,559				
	September	38,120	94,648		38,697	94,527			
	October	27,462	- 1		25,512	31,021	1		
	November	26,618			26,261				
	December	16,137	70,217	359,643	15,850	67,623	350,034		
1998	January	13,301			13,614	37,7000			
	February	47,212			49,552				
	March	42,337	102,850		44,964	108,130			
	April	27,072	100000000000000000000000000000000000000		27,519	-	1		
	May	18,084	100		18,161	5.5			
	June	26,699	71,855		26,976	72,656	19		
	July	16,535		1	15,929			1	
	August	8,287	(20 5.4)	1	7,488	43.00			
	September	9,994	34,816		9,021	32,438			
	October	13,312			17,302		h 13		
_	November	9,822	201721	75.5	9,873	100000			
1000	December	8,287	31,421	240,942	9,497	36,672	249,896		
1999	January	4,026			4,607				
	February	6,867	40.004	1	8,138	20 500			
	March	5,641	16,534		6,030	18,775			
	April	7,873		1	7,338				
	May June	34,100	62 604	1	32,461	50 070			
	July	20,708	62,681		20,171	59,970			
	August	35,278 35,876			34,566				
	September	43,196	114,350	1	35,995 42,724	112 20E		-	
	October	9,700	114,330	1	10,097	113,285		_	
	November	8,383	7.5	1	9,080	_			
	December	28,662	46,745	240,310	29,721	48,898	240,928		
	January	65,492		5.070.00	65,028	70,050	2.10/520		
	February	37,709	1 1 1 1		36,909				
	March	40,409	143,610		40,414	142,351			
	April	20,181			20,404		1		
	May	52,092			50,373				
	June	41,371	113,644		37,776	108,553	1		
	July	33,860		1	31,757		I		
	August	37,535			35,492		1		
	September	58,042	129,437	1	53,288	120,537	1	1-0-1	
	October	28,777		1	27,216		1		
	November	22,677	50.40	are are	24,130	agine.			
	December January	17,670	69,124	455,815	17,369	68,715	440,156		
	February	32,427		1	37,083			-	
	March	17,493 34,050	83,970	1	23,076 33,216	93,375	4		
	April	32,900	33,370	1	36,064	33,375	1		Change to Valo E. Valo
	May	66,724		1	52,555				Change to Yale E. Key
	June	37,607	137,231	1	42,347	130,966			
	July	16,399	22.752	1	15,588	200/200			
	August	10,173		1	33,664		1		
	September	16,185	42,757		16,200	65,452	1		
	October	25,184			24,147		1		
	November	10,447	61.4	1.00	8,666	17.7			
	December	21,061	56,692	320,650	18,733	51,546	341,339		
	January	11,809			10,135				
	February	22,700	75450		23,733		1		
	March	4,693	39,202	/ IE	4,369	38,237	1		
	April	15,160			16,776				
	May	16,321	- Back and		17,283	Pr. 1. 71			
	June	13,938	45,419		15,276	49,335	1		
	July	8,301		1	10,688		1		
	August	7,079	2000	E	6,842				
	September	18,560	33,940		17,240	34,770	1		
- 1	October	7,040			7,823				
- 10	44				10,950				
	November	9,788	42.02	The same of the let		13.7 3. 41			
	December	11,666	28,494	147,055	19,667	38,440	160,782		
2003			28,494	147,055		38,440	160,782		

TABLE 1

TABLE 1 2011 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 Freshwater Injection (bbls)	Quarterly Freshwater Injection (bbls)	Annual Freshwater Injection (bbls)	Comments	Operator
	April	31,782			31,619				
	May	17,767	70.70		13,305	43344			1
	June	10,733	60,282		9,260	54,184			
	July	27,104	1000		13,927				4
	August	9,555	44 504		7,197	25 480			4
	September October	7,945 12,014	44,604		5,056	26,180			4
_	November	26,100			10,394 12,438			_	1
	December	38,748	76,862	248,309	18,218	41,050	185,798		1
2004	January	7,980		2,0,000	8,539	12,000	100//30		1
	February	8,130	100		8,797				1
	March	8,220	24,330		8,894	26,230]
	April	29,898			31,931				
	May	14,233			15,428	160000			
-	June	28,716	72,847		30,410	77,769	11		
	July August	1,840 29,898			2,060 30,201				4
	September	20,277	52,015		20,266	52,527			1
	October	24,436	92,023		23,784	32,327			1
	November	21,925			22,430			V	
	December	32,225	78,586	227,778	33,630	79,844	236,370		1
2005	January	17,873			19,160				1
	February	23,929	17.11		24,958	100	1]
	March	37,896	79,698		40,435	84,553			1
	April	29,882			31,794				
	May	39,575	00.11		42,385				
	June	22,766	92,223		23,995	98,174	V .		1
_	July	7,593			7,640				
_	August September	31,573 47,305	86,471		29,316 48,230	85,186			4
	October	38,571	50,471		51,232	63,160			1
	November	31,533			27,670		P		1
	December	36,430	106,534	364,926	36,412	115,314	383,227		1
2006	January	18,480			19,977		7.00		1
	February	33,250		-	35,511	1.00	11		1
	March	39,492	91,222		38,630	94,118			1
	April	40,194			43,605		3		
	May	51,009	1110000		54,630	Taylore			1
	June	22,374	113,577		24,832	123,067	1		1
	July	38,208			37,613				-
	August September	35,627 48,784	122,619		36,201 47,312	121 125			
	October	50,375	122,019		51,232	121,126			1
	November	26,084		1	27,670		1		1
	December	8,224	84,683	412,101	10,202	89,104	427,415		1
2007	January	31,540			33,320				
	February	24,313			25,260				Change to Key Energy Service
	March	40,514	96,367		38,412	96,992	1		
	April	34,095			35,120				
	May	19,308			23,130	- 41833	/ 0	t	1
	June	9,170	62,573		11,009	69,259			1
	July	30,857	-		28,468		1		
	August September	12,394 25,970	69,221		18,884 23,360	70,712			-
_	October	7,882	03,221		7,643	70,712			1
	November	2,476		1	2,630				†
	December	3,933	14,291	242,452	4,528	14,801	251,764		1
2008	January	1,706			1,982				1
	February	5,845			6,203		1	1	1
	March	21,386	28,937		21,673	29,858	1	1	1
	April	25,787			22,704	1.000			
	May	17,100		10	19,842	22/220		-	1
_	June	16,598	59,485		17,479	60,025			1
	July	32,458			36,448				1
	August September	37,458 39,945	109,861		38,377 37,203	112,028		+	+
_	October	25,572	109,001		26,551	112,028	D	-	1
	November	27,325		1000	25,792				1
	December	26,825	79,722	278,005	28,694	81,037	282,948	1	1
	January	20,990			21,310	32/00/	27417-10	-	1
	February	650	- 5.41		1,306				1
	March	3,249	24,889		3,420	26,036			1
	April	5,428			5,360			- 1	1
		1,343		10	1,762				
	May		G AL						
	June	630	7,401	1	1,232	8,354			
			7,401		1,232 1,673 1,031	8,354			

TABLE 1

TABLE 1 2011 BW-28 Annual Report Brine Well Production Volumes and Lifetime History Volumes

fear .	Month	Reported Monthly Brine Production (bbls)	Quarterly Brine Production (bbls)	Annual Brine Production (bbls)	Reported Monthly Freshwater Injection (bbls)	Quarterly Freshwater Injection (bbls)	Annual Freshwater Injection (bbls)	Comments	Operator
	October	9,898			8,861				
	November	3,716		- 4	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	The second		6,150				
	May	12,256			14,953	- 11			
	June	2,099	19,447	1 1	2,033	23,136			
	July	5,068		1	6,322				
	August	10,270			15,126				
	September	11,281	26,619		10,334	31,782			
	October	7,575			8,802		P		
	November	20,304			24,494		1		
	December	36,765	64,644	115,452	44,153	77,449	138,966		
2011	January	44,126			52,975				
	February	24,388			29,666				
	March	19,421	87,935		23,284	105,925			
	April	18,356			22,365				
	May	9,828			11,754	10000			
	June	15,661	43,845		18,902	53,021			
	July	17,503			20,961				
	August	14,401			17,273				
	September	5,430	37,334		16,000	54,234			
	October	11,359			8,284				
	November	18,585	F		19,662	400			
	December	23,228	53,172		27,806	55,752	268,932		
TOTAL \	OLUMES			3,989,782			4,074,428		

^{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

E			

MONTH	WATER IN	WATER OUT	PSI	RATIO OF WATER	R IN-OUT
Jan-11	52,975	44,126	100	16.70%	444
Feb-11	29,666	24,388	100	17.79%	***
Mar-11	23,284	19,421	100	16.59%	***
Apr-11	22,365	18,356	100	17.93%	***
May-11	11.754	9.828	100	16.39%	***
Jun-11	18,902	15,661	100	17.15%	***
Jul-11	20.961	17,503	100	16.50%	***
Aug-11	17,273	14,401	100	16.63%	***
Sep-11	16.000	5,430	100	66.06%	***
Oct-11	8.284	11,359	100	-37.12%	***
Nov-11	19.662	18,585	100	5.48%	***
Dec-11	27.806	23,228	100	16.46%	***
TOTAL	268.932	222,286			

YEARLY RATIO % MONTHLY AVERAGE %

BRINE PRODUCTION BBLS 222,286 FRESH WATER INJECTION BBLS 268,932 17.34%

15.44%

NOTES

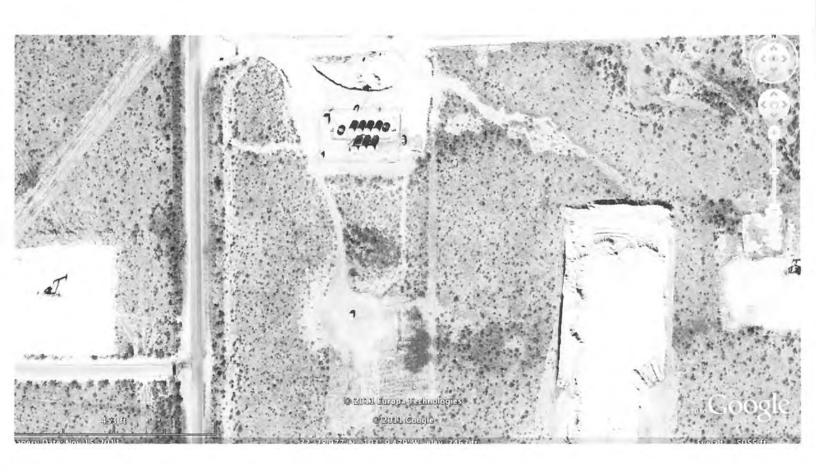
*** Positive % numbers means more Fresh Water injected than brine water produced.

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.

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

APPENDICES

APPENDIX A PHOTOGRAPHS



APPENDIX B

Fresh and Brine Water LABORATORY REPORT

CHAIN OF CUSTODY



November 17, 2011

LESTER WAYNE PRICE, JR.

PRICE LLC

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO, NM 87124

RE: GUINE BRINE WELL

EUNICE BRINE WELL Af

Enclosed are the results of analyses for samples received by the laboratory on 10/19/11 13:30.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021

Benzene, Toluene, Ethyl Benzene, and Total Xylenes

Method SW-846 8260

Benzene, Toluene, Ethyl Benzene, and Total Xylenes

Method TX 1005

Total Petroleum Hydorcarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2

Haloacetic Acids (HAA-5)

Method EPA 524.2

Total Trihalomethanes (TTHM)

Method EPA 524.4

Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices,

Celey L. Frence

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



PRICE LLC

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO NM, 87124

Project: GUINI BRINE WELL

Project Number: NONE GIVEN

Project Manager: LESTER WAYNE PRICE, JR

Fax To: UNK-NOWN

Reported: 17-Nov-11 11:10

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FRESHWATER	H102262-01	Water	19-Oct-11 10:50	19-Oct-11 13:30
BRINE WATER	H102262-02	Water	19-Oct-11 11:00	19-Oct-11 13:30

Cardinal Laboratories *=Accredited Analyte

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Celey & Keins



PRICE LLC

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO NM, 87124

Project: GUINI BRINE WELL

Project Number: NONE GIVEN

Project Manager: LESTER WAYNE PRICE, JR

Fax To: UNK-NOWN

Reported:

17-Nov-11 11:10

FRESHWATER H102262-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
		Cardina	Laborate	ories					
Total Metals by ICPMS								4444	27.
Arsenic	0.0070	0.0005	mg/L	1	1111412	JM	02-Nov-11	200.8	GAL
Barium	0.0610	0.000500	mg/L	1	1111412	JM	02-Nov-11	200.8	GAL
Cadmium	ND	0.00010	mg/L	1	1111412	JM	02-Nov-11	200,8	GAL
Chromium	ND	0.001	mg/L	I	1111412	JM	02-Nov-11	200.8	GAL
Cobalt	ND	0.00010	mg/L	1	1111412	JM	02-Nov-11	200.8	GAL
Copper	0.0254	0,0001	mg/L	1	1111412	JM	02-Nov-11	200.8	GAL
Lead	ND	0.0005	mg/L	1	1111412	JM	02-Nov-11	200.8	GAL
Manganese	ND	0.0050	mg/L	10	1111412	JM	11-Nov-11	200.8	GAL
Molybdenum	0,0033	0.0005	mg/L	1	1111412	JM	02-Nov-11	200.8	GAI
Nickel	0,0014	0.0005	mg/L	1	1111412	JM	02-Nov-11	200.8	GAI
Selenium	0,005	0.001	mg/L	1	1111412	JM	02-Nov-11	200.8	GAI
Silver	ND	0.00010	mg/L	1	1111412	JM	02-Nov-11	200.8	GAI
Uranium	0.00280	0.000100	mg/L	1	1111412	JM	02-Nov-11	200.8	GAI
Zine	ND	0.010	mg/L	10	1111412	JM	11-Nov-11	200.8	GAI
Zinc									
Mercury (Total) by CVAA						m.c.	27 0-4 11	245.1	GAI
Mercury	ND	0.0002	mg/L	1	1111411	JM	27-Oct-11	243,1	GAI
Inorganic Compounds		100			- 300.00	****		310.1M	_
Alkalinity, Bicarbonate	229	5.00	mg/L	1	1102105	HM	21-Oct-11	310.1M	
Alkalinity, Carbonate	ND	0.00	mg/L	1	1102105	HM	21-Oct-11		
Chloride	68.0	16.0	mg/L	4	1101905	HM	21-Oct-11	4500-CI-B	
Conductivity	683	1.00	uS/cm	1	1102705	HM	20-Oct-11	120.1	
Cyanide (total)	ND	0.005	mg/L	1	1111413	CK	26-Oct-11	335.4	GA
Fluoride	1.04	0.200	mg/L	1	1111414	CK	01-Nov-11	4500F C	GA
pH	7.64	0.100	pH Units	1	1102705	HM	20-Oct-11	150.1	
Specific Gravity @ 60° F	0.9934	0.000	[blank]	1	1110307	HM	28-Oct-11	SM 2710F	
Sulfate	70.3	10.0	mg/L	4	1103102	HM	28-Oct-11	375.4	
TDS	433	5.00	mg/L	1	1102603	HM	22-Oct-11	160,1	
Alkalinity, Total	188	4,00	mg/L	1	1102105	HM	21-Oct-11	310.1M	

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*=Accredited Analyte

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Celey ? Kreene

Celey D. Keene, Lab Director/Quality Manager



PRICE LLC

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO NM, 87124

Project: GUINI BRINE WELL

Project Number: NONE GIVEN

Project Manager: LESTER WAYNE PRICE, JR

Fax To: UNK-NOWN

Reported:

17-Nov-11 11:10

FRESHWATER H102262-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
		Cardina	l Labora	tories					
Inorganic Compounds									
TSS	12.0	2.00	mg/L	1	1111105	HM	25-Oct-11	160.2	
TOTAL METALS BY ICP									
Aluminum	ND	0.0500	mg/L	1	1111410	JM	26-Oct-11	200.7	GAI
Boron	ND	0.300	mg/L	1	1111410	JM	26-Oct-11	200.7	GAI
Iron	0.079	0.060	mg/L	1	1111410	JM	26-Oct-11	200.7	GAI

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Celey & Keine



PRICE LLC

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO NM, 87124

Project: GUINI BRINE WELL

Project Number: NONE GIVEN

Project Manager: LESTER WAYNE PRICE, JR

Fax To: UNK-NOWN

Reported:

17-Nov-11 11:10

BRINE WATER H102262-02 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
		Cardina	l Laborat	ories					
Total Metals by ICPMS								10.1	12
Arsenic	ND	0.0500	mg/L	100	1111412	JM	02-Nov-11	200.8	GAL
Barium	0.0575	0.0500	mg/L	100	1111412	JM	02-Nov-11	200.8	GAL
Cadmium	ND	0.0100	mg/L	100	1111412	JM	02-Nov-11	200.8	GAL
Chromium	ND	0.100	mg/L	100	1111412	JM	02-Nov-11	200.8	GA1
Cobalt	ND	0.0100	mg/L	100	1111412	JM	02-Nov-11	200.8	GAL
Copper	0.407	0.0100	mg/L	100	1111412	JM	02-Nov-11	200.8	GAL
Lead	ND	0.0500	mg/L	100	1111412	JM	02-Nov-11	200.8	GAL
Manganese	0.421	0.0050	mg/L	10	1111412	JM	11-Nov-11	200.8	GAL
Molybdenum	ND	0.0500	mg/L	100	1111412	JM	02-Nov-11	200.8	GAI
Nickel	ND	0.0500	mg/L	100	1111412	JM	02-Nov-11	200.8	GAL
Selenium	ND	0.100	mg/L	100	1111412	JM	02-Nov-11	200.8	GAI
Silver	ND	0.0100	mg/L	100	1111412	JM	02-Nov-11	200.8	GAI
Uranium	0.0294	0.0100	mg/L	100	1111412	JM	02-Nov-11	200.8	GAI
Zine	ND	0.010	mg/L	10	1111412	JM	11-Nov-11	200.8	GAI
Mercury (Total) by CVAA								1101	S 15.0
Mercury	ND	0.0002	mg/L	1	1111411	JM	27-Oct-11	245.1	GAI
Inorganic Compounds						-	20.0020	210.124	_
Alkalinity, Bicarbonate	181	5.00	mg/L	1	1102105	HM	21-Oct-11	310.1M	
Alkalinity, Carbonate	ND	0.00	mg/L	1.	1102105	HM	21-Oct-11	310.1M	
Chloride	136000	16.0	mg/L	4	1101905	HM	21-Oct-11	4500-CI-B	
Conductivity	397000	1.00	uS/cm	1	1102705	HM	20-Oct-11	120.1	643
Cyanide (total)	ND	0.005	mg/L	1	1111413	CK	26-Oct-11	335.4	GA
Fluoride	1.04	0.200	mg/L	1	1111414	CK	01-Nov-11	4500F C	GA
рН	6.80	0.100	pH Units	1	1102705	HM	20-Oct-11	150.1	
Specific Gravity @ 60° F	1.131	0.000	[blank]	1	1110307	HM	28-Oct-11	SM 2710F	
Sulfate	6160	10.0	mg/L	1	1103102	HM	28-Oct-11	375.4	
TDS	210000	5.00	mg/L	1	1102603	HM	22-Oct-11	160.1	
Alkalinity, Total	148	4.00	mg/L	1	1102105	HM	21-Oct-11	310.1M	

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Celegi Keene

Celey D. Keene, Lab Director/Quality Manager



PRICE LLC

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO NM, 87124

Project: GUINI BRINE WELL

Project Number: NONE GIVEN

Project Manager: LESTER WAYNE PRICE, JR

Fax To: UNK-NOWN

Reported: 17-Nov-11 11:10

BRINE WATER H102262-02 (Water)

			A CONTRACTOR OF THE PARTY OF TH	7.7.2.2					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
		Cardina	l Labora	tories					
Inorganic Compounds					-	(West		170.0	
TSS	96.0	2.00	mg/L	1	1111105	HM	25-Oct-11	160.2	
TOTAL METALS BY ICP								- 1077	
Aluminum	1.39	0.500	mg/L	10	1111410	JM	26-Oct-11	200.7	GAI
Boron	10.9	3,00	mg/L	10	1111410	JM	26-Oct-I1	200.7	GAI
Iron	ND	0,600	mg/L	10	1111410	JM	26-Oct-11	200,7	GAI

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Celeg treene



PRICE LLC

Project: GUINI BRINE WELL

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO NM, 87124

Project Number: NONE GIVEN

Reported: 17-Nov-11 11:10

Project Manager: LESTER WAYNE PRICE, JR

Fax To: UNK-NOWN

Total Metals by ICPMS - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1111412 - EPA 3005										
Blank (1111412-BLK1)				Prepared: (01-Nov-11	Analyzed: 0	2-Nov-11			
Chromium	ND	0.001	mg/L							
Silver	ND	0.00010	mg/L							
Molybdenum	ND	0.0005	mg/L							
Lead	ND	0.0005	mg/L							
Barium	ND	0.000500	mg/L							
Cadmium	ND	0.00010	mg/L							
Zinc	0.018	0.001	mg/L							В
Cobalt	ND	0.00010	mg/L							
Copper	ND	0.0001	mg/L							
Manganese	0.0035	0.0005	mg/L							В
Uranium	ND	0.000100	mg/L							
Arsenic	ND	0.0005	mg/L							
Selenium	ND	0,001	mg/L							
Nickel	ND	0,0005	mg/L							

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PRICE LLC

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO NM, 87124

Batch 1111412 - EPA 3005

Project: GUINI BRINE WELL

Project Number: NONE GIVEN

Project Manager: LESTER WAYNE PRICE, JR

Fax To: UNK-NOWN

Reported: 17-Nov-11 11:10

Total Metals by ICPMS - Quality Control

Cardinal Laboratories

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

LCS (1111412-BS1)			
LC3(1111412-D31)			

LCS (1111412-BS1)			Prepared: 01-Nov	v-11 Analyzed:	02-Nov-11	
Silver	0.0521	mg/L	0.0500	104	85-115	
Molybdenum	0.0542	mg/L	0.0500	108	85-115	
Zinc	0.059	mg/L	0.0500	118	85-115	BS1
Cobalt	0.0515	mg/L	0.0500	103	85-115	
Arsenic	0.0529	mg/L	0.0500	106	85-115	
Nickel	0.0504	mg/L	0.0500	101	85-115	
Uranium	0.0490	mg/L	0.0500	98.0	85-115	
Lead	0.0503	mg/L	0.0500	101	85-115	
Selenium	0.273	mg/L	0.250	109	85-115	
Copper	0.0502	mg/L	0.0500	100	85-115	
Chromium	0.049	mg/L	0.0500	98.6	85-115	
Manganese	0.0429	mg/L	0.0500	85.8	85-115	
Barium	0.0503	mg/L	0.0500	101	85-115	
Cadmium	0.0507	mg/L	0.0500	101	85-115	

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PRICE LLC

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO NM, 87124

Project: GUINI BRINE WELL

Project Number: NONE GIVEN

Project Manager: LESTER WAYNE PRICE, JR

Fax To: UNK-NOWN

Reported: 17-Nov-11 11:10

Total Metals by ICPMS - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1111412 - EPA 3005										
LCS Dup (1111412-BSD1)				Prepared: (01-Nov-11	Analyzed: 0	2-Nov-11			
Uranium	0.0485		mg/L	0.0500		97.0	85-115	1,03	20	
Silver	0.0483		mg/L	0.0500		96.6	85-115	7.57	20	
Nickel	0.0493		mg/L	0.0500		98.6	85-115	2.21	20	
ead	0.0498		mg/L	0.0500		99.6	85-115	0.999	20	
Chromium	0.049		mg/L	0.0500		98.2	85-115	0.407	20	
Barium	0.0492		mg/L	0.0500		98.4	85-115	2.21	20	
Selenium	0.256		mg/L	0.250		102	85-115	6.43	20	
Cobalt	0.0503		mg/L	0.0500		101	85-115	2.36	20	
Zinc	0.065		mg/L	0.0500		130	85-115	9.52	20	1
Molybdenum	0.0523		mg/L	0.0500		105	85-115	3.57	20	
Manganese	0.0443		mg/L	0.0500		88,6	85-115	3.21	20 20	
Copper	0.0487		mg/L	0.0500		97.4	85-115	3.03		
Cadmium	0.0501		mg/L	0.0500		100	85-115	1.19	20	
Arsenic	0.0505		mg/L	0.0500		101	85-115	4.64	20	

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Analytical Results For:

PRICE LLC

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO NM, 87124

Project: GUINI BRINE WELL

Project Number: NONE GIVEN

Project Manager: LESTER WAYNE PRICE, JR

Source

Fax To: UNK-NOWN

Reported:

RPD

17-Nov-11 11:10

Total Metals by ICPMS - Quality Control

Cardinal Laboratories

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Mercury (Total) by CVAA - Quality Control

Cardinal Laboratories

Reporting

Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 1111411 - EPA 245.1										
Blank (1111411-BLK1)				Prepared &	& Analyzed	27-Oct-11				
Mercury	ND	0,0002	mg/L							
LCS (1111411-BS1)				Prepared &	& Analyzed	27-Oct-11				
Mercury	0.0022		mg/L	0.00200		110	85-115			
LCS Dup (1111411-BSD1)				Prepared &	k Analyzed	27-Oct-11				
Mercury	0.0021		mg/L	0.00200		105	85-115	4.65	20	

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PRICE LLC

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO NM, 87124

Project: GUINI BRINE WELL

Project Number: NONE GIVEN

Project Manager: LESTER WAYNE PRICE, JR Fax To: UNK-NOWN . "1

Reported: 17-Nov-11 11:10

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Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1101905 - SPLP 1312										-30110
Blank (1101905-BLK1)				Prepared: 1	17-Oct-11 A	nalvzed: 2	0-Oct-11			
Chloride	ND	4.00	mg/L				0 00111			
LCS (1101905-BS1)				Prepared: 1	7-Oct-11 A	nalyzed: 2	0-Oct-11			
Chloride	112	4.00	mg/L	100	out 117	112	80-120			
LCS Dup (1101905-BSD1)				Prepared: 1	7-Oct-11 A	malvzed: 2	0-Oct-11			
Chloride	108	4.00	mg/L	100		108	80-120	3.64	20	
Batch 1102105 - General Prep - Wet Chem										
Blank (1102105-BLK1)				Prepared &	Analyzed	21-Oct-11				
Alkalinity, Carbonate	ND	0.00	mg/L	3311031	7					
Alkalinity, Bicarbonate	ND	5.00	mg/L							
Alkalinity, Total	ND	4.00	mg/L							
LCS (1102105-BS1)				Prepared &	Analyzed	21-Oct-11				
Alkalinity, Carbonate	ND	0.00	mg/L				80-120			
Alkalinity, Bicarbonate	ND	5.00	mg/L				80-120			
Alkalinity, Total	112	4.00	mg/L	100		112	80-120			
LCS Dup (1102105-BSD1)				Prepared &	Analyzed:	21-Oct-11				
Alkalinity, Carbonate	ND	0,00	mg/L				80-120		20	
Alkalinity, Bicarbonate	ND	5.00	mg/L				80-120		20	
Alkalinity, Total	120	4.00	mg/L	100		120	80-120	6.90	20	
Duplicate (1102105-DUP1)	Sour	rce: H102248-	02	Prepared &	Analyzed:	21-Oct-11				
Alkalinity, Carbonate	ND	0.00	mg/L		0.00				20	
Alkalinity, Bicarbonate	156	5.00	mg/L		161			3.15	20	
Alkalinity, Total	128	4.00	mg/L		132			3.08	20	

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Celey D. Keene, Lab Director/Quality Manager



PRICE LLC

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO NM, 87124

Project: GUINI BRINE WELL

Project Number: NONE GIVEN

Project Manager: LESTER WAYNE PRICE, JR

Fax To: UNK-NOWN

Reported:

17-Nov-11 11:10

Inorganic Compounds - Quality Control

Cardinal Laboratories

	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Analyte	Result	Limit	Omis	Lores	Attigue	3,0,00,0	244444			
Batch 1102105 - General Prep - Wet Chem								-		
Matrix Spike (1102105-MS1)	Sou	rce; H102248	-02	Prepared &	k Analyzed:	21-Oct-11				
Alkalinity, Carbonate	ND	0.00	mg/L		0.00		70-130			
Alkalinity, Bicarbonate	283	5.00	mg/L		161		70-130			
Alkalinity, Total	232	4,00	mg/L	100	132	100	70-130			
Batch 1102603 - *** DEFAULT PREP ***										
Blank (1102603-BLK1)				Prepared: 22-Oct-11 Analyzed: 26-Oct-11						
TDS	ND	5.00	mg/L							
LCS (1102603-BS1)				Prepared: 22-Oct-11 Analyzed: 26-Oct-11						
TDS	235		mg/L	240		97.9	80-120			
Duplicate (1102603-DUP1)	Sou	rce: H102277	-01	Prepared:	22-Oct-11 A	Analyzed: 2	6-Oct-11			
TDS	3260	5.00	mg/L		3260			0.00	20	
Batch 1102705 - General Prep - Wet Chem										
LCS (1102705-BS1)				Prepared &	& Analyzed	20-Oct-11				
Conductivity	509		uS/cm	500		102	80-120			
pH	7.11		pH Units	7.00		102	90-110			
Duplicate (1102705-DUP1)	Sou	arce: H102247	-01	Prepared &	& Analyzed	20-Oct-11				
pH	7.75	0.100	pH Units		7.73			0.258	20	
Conductivity	1410	1.00	uS/cm		1410			0.00	20	

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PRICE LLC

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO NM, 87124

Project: GUINI BRINE WELL

Project Number: NONE GIVEN

Project Manager: LESTER WAYNE PRICE, JR

Fax To: UNK-NOWN

Reported: 17-Nov-11 11:10

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1103102 - General Prep - Wet Che	em									
Blank (1103102-BLK1)				Prepared &	Analyzed:	28-Oct-11				
Sulfate	ND	10.0	mg/L							
LCS (1103102-BS1)				Prepared &	Analyzed:	28-Oct-11				
Sulfate	20.9	10.0	mg/L	20.0		104	80-120			
LCS Dup (1103102-BSD1)				Prepared & Analyzed: 28-Oct-11						
Sulfate	18.2	10.0	mg/L	20,0		91.0	80-120	13.8	20	
Duplicate (1103102-DUP1)	Sou	rce: H102247-	-01	Prepared &	Analyzed:	28-Oct-11				
Sulfate	70.1	10.0	mg/L		67.5			3.78	20	
Batch 1110307 - General Prep - Wet Che Duplicate (1110307-DUP1)		rce: H102247-	-01	Prepared &	Analyzed:	28-Oct-11				
				Prepared &	Analyzed: 0.9969	28-Oct-11		0.194	200	
Specific Gravity @ 60° F	0,9950	0,000	[blank]		0.5505			0.154	200	
Batch 1111105 - Filtration										
Blank (1111105-BLK1)				Prepared &	Analyzed:	25-Oct-11				
TSS	ND	2.00	mg/L							
Duplicate (1111105-DUP1)	Sou	rce: H102248-	-01	Prepared &	Analyzed:	25-Oct-11				
TSS	6,00	2.00	mg/L		6.00			0.00	20	
Batch 1111413 - General Prep										
Blank (1111413-BLK1)				Prepared: 2	25-Oct-11 A	nalyzed. 26	5-Oct-11			
	ND	0.005	mg/L							

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PRICE LLC

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO NM, 87124

Project: GUINI BRINE WELL

Project Number: NONE GIVEN

Project Manager: LESTER WAYNE PRICE, 3R

Fax To: UNK-NOWN

Reported: 17-Nov-11 11:10

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1111413 - General Prep										
LCS (1111413-BS1)				Prepared: 2	25-Oct-11 /	Analyzed: 2	6-Oct-11			
Cyanide (total)	0.042		mg/L	0.0500		85.0	85-115			
LCS Dup (1111413-BSD1)				Prepared: 2	25-Oct-11 A	Analyzed: 2	6-Oct-11			
Cyanide (total)	0,047		mg/L	0.0500		94.8	85-115	10.9	20	
Batch 1111414 - General Prep										
Blank (1111414-BLK1)				Prepared &	Analyzed	01-Nov-1	1			
Fluoride	ND	0.200	mg/L							
LCS (1111414-BS1)				Prepared &	Analyzed	01-Nov-1				
Fluoride	1.09		mg/L	1.00		109	80-120			
LCS Dup (1111414-BSD1)				Prepared &	Analyzed	01-Nov-1	i			
Fluoride	1.09		mg/L	1.00		109	80-120	0.00	20	

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PRICE LLC

312 ENCANTADO RIDGE COURT, NE

RIO RANCHO NM, 87124

Project: GUINI BRINE WELL

Project Number: NONE GIVEN

Project Manager: LESTER WAYNE PRICE, JR

Fax To: UNK-NOWN

Reported: 17-Nov-11 11:10

Pax 10. UNK-NOVIN

TOTAL METALS BY ICP - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	Limit	Notes
Batch 1111410 - EPA 3005										
Blank (1111410-BLK1)				Prepared:	25-Oct-11 A	Analyzed: 2	6-Oct-11			
Aluminum	ND	0.0500	mg/L							
Iron	ND	0.060	mg/L							
Boron	ND	0.300	mg/L							
LCS (1111410-BS1)				Prepared: 2	25-Oct-11 A	Analyzed: 2	6-Oct-11			
Boron	3.86		mg/L	4.00		96.5	85-115			
Aluminum	3.94		mg/L	4.00		98.5	85-115			
Iron	3,89		mg/L	4.00		97.2	85-115			
LCS Dup (1111410-BSD1)				Prepared: 2	25-Oct-11 A	analyzed: 2	6-Oct-11			
Boron	3.89		mg/L	4.00		97.2	85-115	0.774	20	
Iron	3.92		mg/L	4.00		98.0	85-115	0.768	20	
Aluminum	3.95		mg/L	4.00		98.8	85-115	0.253	20	

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Notes and Definitions

GAL	Analysis succontracted to Green Analytical Laboratories, a subsidiary of Cardinal Laboratories.
BS1	Blank spike recovery above laboratory acceptance criteria. Results for analyte potentially biased high.
B1	Target analyte detected in method blank at or above method reporting limit. Sample concentration found to be 10 times above the concentration found in the method blank or less than the reporting limit.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
4	Chloride by SM4500CI-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

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† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

Page 17 of 17

APPENDIX C C-141 Spill Report and Photos

HOBBS OCD

JUN 0 6 2011

District [1625 N. French Dr., Hobbs, NM 88240 District [] 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, 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

Form C-141 Revised October 10, 2003

RECEIVED

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Santa Fe, NM 87505 Release Notification and Corrective Action

1220 South St. Francis Dr.

Mana - FC											
Name of Co	ompany Ko	ey Energy Se	ervice			Contact	Bob Fisher				
Address	Box	99 Eunice,	N.M.			Telephone l	No. 575-394-25	81			
Facility Na	me Stat	e S Water S	Station			Facility Typ	oe Brine & Fr	esh Wate	er Sales		
Surface Ow	ner Decl	k Estate		Mineral C	wner	State of N	ew Mexico		Lease 1	lo. MS 0004 0001	
3.64				LOCA	TIO	N OF RE	LEASE API	# 30	-020	- 33547-0	00-00
Unit Letter E	Section 15	Township 21S	Range 37E	Feet from the 1340		South Line	Feet from the 330	East/We	est Line est	County Lea-	
	1	Latitud	e_N32° 2	9' 02.2		Longitude_	W103° 09' 28.8	3"			
				NAT	URE	OF REL					
Type of Rele							Release 100 bbl			Recovered 401	
Source of Re	elease	transport	truck-Bro	nco Services		30-2011	Hour of Occurrence 6 am		@ 8 am	Hour of Discovery 5-	10-2011
Was Immedi Required	ate Notice		☐ Yes [□ No □ Not		If YES, To	o Whom? Noey F	ranco. Su	pervisor	on duty	
By Whom?	John Sande	275			_	Date and I	Hour 5-30-2011 (@ 8 am			
Was a Water		ched?	Yes x	□ No		If YES, V	olume Impacting	the Watero	course.		
		pacted, Descr									
								(GW(9	1631	
		lem and Reme perater fell as		n Taken.* loading his truck				(GW(1631	
Bronco Serv	ices truck o	perater fell as	leep while	loading his truck				(GW@	7631	
Bronco Serv	ices truck o	perater fell as	leep while	loading his truck		ill take care c	of the clean up & c		GW(9	7631	
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Describe Ar Area North of I hereby cert regulations a public health should their or the environ federal, state Signature: R	ices truck of the loading that the ill operators on the envioperations on the envioperations on the envioperations of the envioperations of the envioperations of the envioperations of the envioperations of the envioperations of the envioperations of the envioperations of the enviolent of the environment. In the environment of the envi	and Cleanup ng docks. Rar information g are required fromment. The have failed to addition, NMe ws and/or reg	Action Tainon Ponce	ken.* e with Bronco Series is true and compind/or file certain rece of a C-141 representational control of the certain received in the certain received and recei	vices W	the best of my notifications a te NMOCD n te contaminat does not relie	y knowledge and used perform corresponder of the series of	expense understand ctive action Report" do reat to gro responsible SERVA	d that pur ons for re ses not re sund wate solity for o	suant to NMOCD rule eases which may end ieve the operator of hir, surface water, huma compliance with any of	inger ability in health ther
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Key Energy BW-28 Brine Spill Area-looking west



Key Energy BW-28 shows loading pad area where brine water ran off pad. Spill was contained on-site.

APPENDIX D MIT TEST CHART

Submit Copy To Appropriate District	State of New M			m C-103
District 1-(575) 393-6161 HOBBS OCT	Energy, Minerals and Nati	ural Resources	WELL API NO.	rust 1, 2011
1625 N. French Dr., Hobbs, NM 88240 District II - (575) 748-1283	Horr government		30-025-33547	
District II - (575) 748-1283 811 S. First St., Artesia, NM 883 EP 2 2 20	MOIL CONSERVATION	DIVISION	5. Indicate Type of Lease	
District III - (505) 334-6178 1000 Rio Brazos Rd., Aztec, NM 87410	1220 South St. Fra	ncis Dr.	STATE X FEE	
District IV = (505) 476-3460 1220 S. St. Francis Dr., Santa Fe, NRECEIVED	Santa Fe, NM 8	7505	6. State Oil & Gas Lease No. MS-0004	
01302	AND REPORTS ON WELLS	S	7. Lease Name or Unit Agreemer	nt Name
(DO NOT USE THIS FORM FOR PROPOSALS DIFFERENT RESERVOIR USE "APPLICATION"	TO DRILL OR TO DEEPEN OR PL	LUG BACK TO A	STATE S	
PROPOSALS.) 1. Type of Well: Oil Well Gas	Well Other Brine Well		8. Well Number #1	
2. Name of Operator			9. OGRID Number	
Key Energy Services				
3. Address of Operator Box 99 Eunice, N.M. 88231			10. Pool name or Wildcat BSW-SALADO	
4. Well Location			1001101111110	
Unit Letter E : 1:	340 feet from the	N lin	ne and 330 feet from th	10
W line	ject from the	-19 1111	ic andicet nom th	ic
Section 15	Township 21S	Range 371	E NMPM Cou	unty LEA
	. Elevation (Show whether DI			A STAN
AND THE PROPERTY OF A PRINCIPAL PROPERTY OF THE PROPERTY OF TH			PARTIE AND STREET	SHOW WE SHE
12 Charle Ann	opriate Box to Indicate N	Vatura of Notice	a Panort or Other Data	
12. Check Appl	opriate box to indicate i	valure of Notice	e. Report of Other Data	
NOTICE OF INTE	NTION TO:	SU	BSEQUENT REPORT OF:	
	UG AND ABANDON	REMEDIAL WO	ORK ALTERING CA	SING [
TEMPORARILY ABANDON C	HANGE PLANS	COMMENCE D	PAND A	
PULL OR ALTER CASING MI	JLTIPLE COMPL	CASING/CEME	NT JOB	
DOWNHOLE COMMINGLE				
OTHER:	Х□	OTHER: T	EST FORMATION TO 350#	
OTHER.	ALI		LOT TORMATION TO COOP	
 Describe proposed or completed of starting any proposed work). proposed completion or recomp 	SEE RULE 19.15.7.14 NMA	l pertinent details. C. For Multiple C	and give pertinent dates, including est Completions: Attach wellbore diagran	imated date n of
PRESSURE FORMATION TO 350# WI	TH FRESH WATER FOR 4	HR TEST TES	ST DATE 9-29-2011	
1	2010 2022 00 10 10 10 10 10 10 10 10 10 10 10 10			
5	20000000	2		
Spud Date:	Rig Release I	Date:		
-		1		
I hereby certify that the information above	e is true and complete to the	best of my knowle	dge and belief.	
Ann.			5	/
CICNATURE ALL I	TITLE X:	stoint 1	Amager DATE 9/2/	1011
SIGNATURE folity. And	111LE DI	19101 111	The state of the	
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For State Use Only	1			
	/ -	~	n 12:	, 7~1
APPROVED BY:	Z TITLE	THIT N	Q DATE 9-22	-2011
Conditions of ApprovaLAT anvi-				



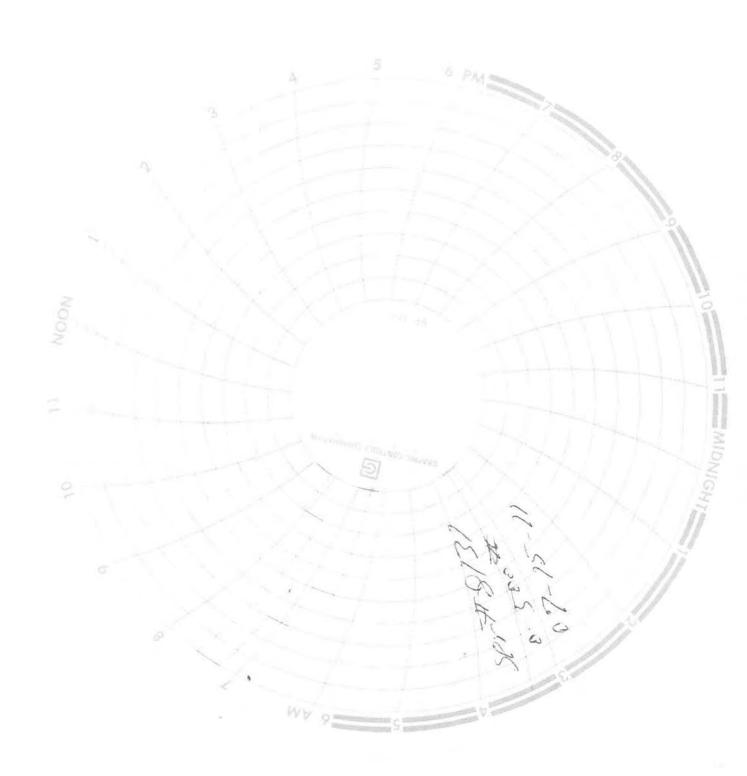
American Valve & Meter, Inc.

1113 W. BROADWAY P.O. BOX 166 HOBBS, NM 88249

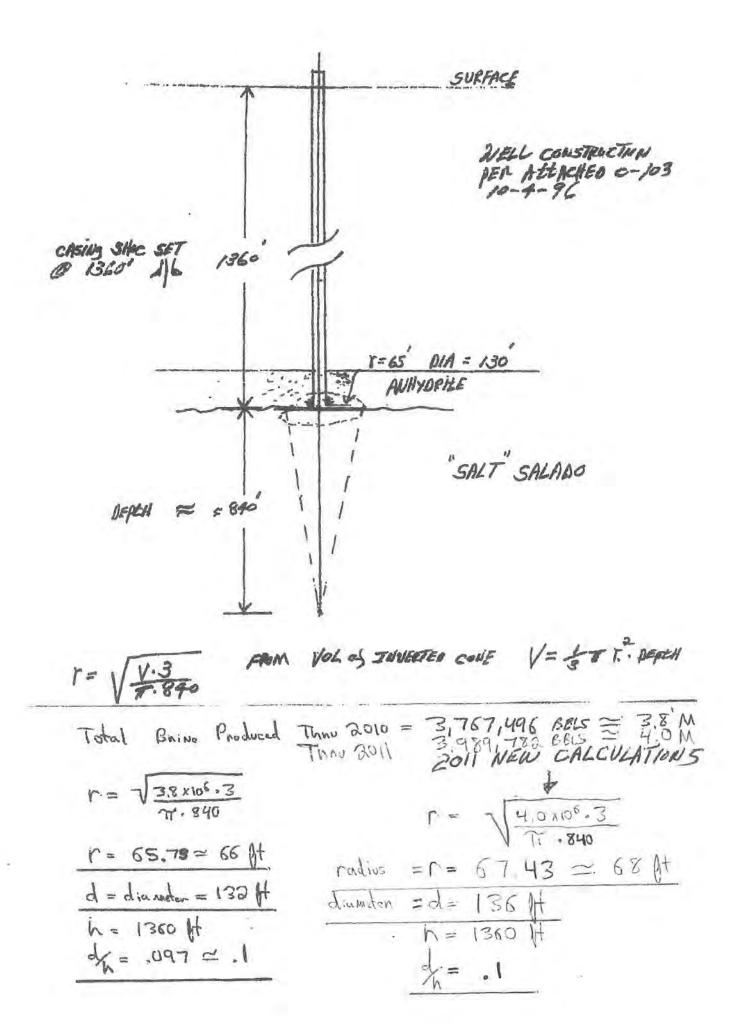
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Remar	us:				

Signature Hudla Con

1 4



APPENDIX E BRINE CAVITY CALCULATIONS



Current Subsidence Report will be mailed within 30 days

APPENDIX F

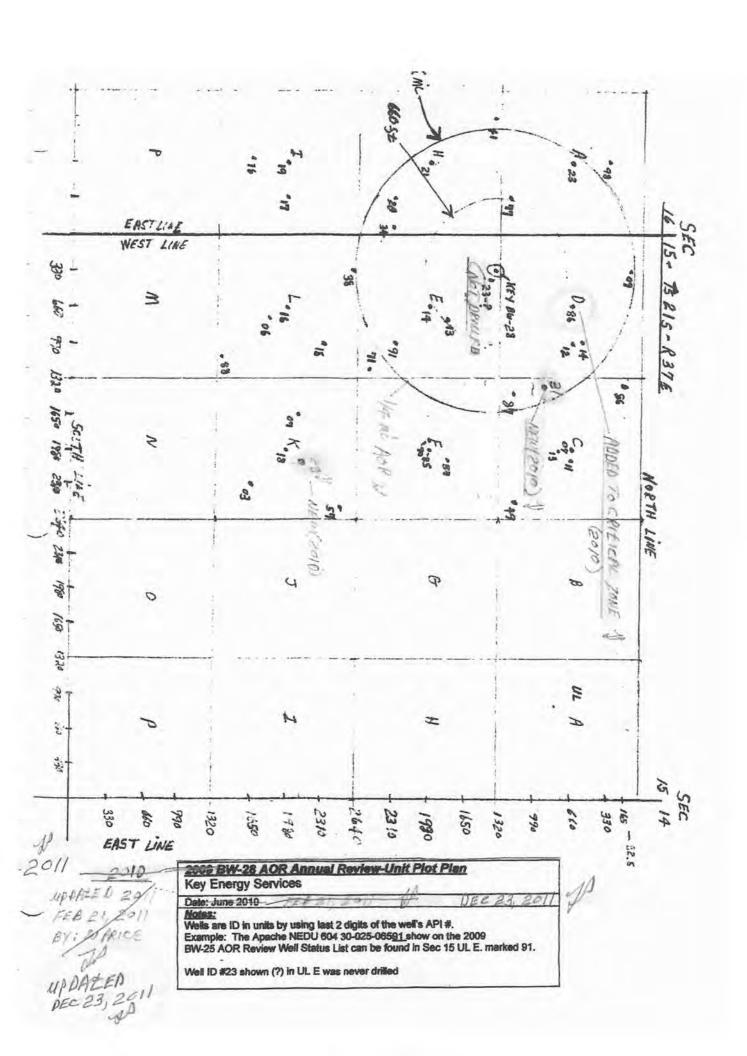
AREA OF REVIEW

- Well Status List Spreadsheet- 1 page
- AOR Plot Plan- 1 page
- 2011 AOR Check Off List- 9 pages
- Critical AOR Wells last OCD file record-4 pages
- Two Additional Wells investigated near the Critical AOR-13 pages

2011 BW-28 AOR Review-- Well Status List

lib a	area proc 12, 1011											
								Within 1/4 mi AOR		Casing Program	Cased/Cemented	Corrective Action
	API#	Well Name	£R.	Section	Ts	Rg	Footage	+ == /m 660 fr		Checked	across salt section	flequired
1	30-025-33547	Key-State no.001		15	21s	37e	1340 FNL 8 330 FWL	NA		NA		
1	30-025-06591	Apache NEDU 604	E	15	215	370	2310 FNL & 990 FWL	yes .	. 1	00	check again 2012 report	check again 2012 report
1	30-025-09913	Shell NEDU 603	E	15	216	37e	3390 / St. & 4520 FEL	6807	1 1		Ves	00
1	30-025-09914	Apache NEDU 602	E	15	215	37e	1980 FNL & 660 FWL	2007	1 1	VES	yes	no
1	30-025-35271	Apache NEDU 602625	E	15	215	370	2580 FNL & 1300 FWL	000		198	06	08
n	067-1177	Apache NEDU 628	E	15	215	37e	1410 FNL & 380 FWL	0.00	0 0		na	ne
	30-025-06609	Chevron St. 002	c	15	215	37=	650 FNL & 1980 FWL	100		Tie-	na-	na
1	30-025-06611	Chevron St. 004		15	215	37e	660 FNL & 2080 FWL	00		THE	00	DO.
1	30-025-06613	Apache NEDU 605	C	15	215	37e	760 FNL & 1980 FWL	190		0.0	Da.	DO:
Y.	30-025-34649	Apactus NEDU-622	C	15	215	37e	1229 FNL & 2498 FWL	790		198	De	ria
-	30-025-34886	Apache NEDU 524	C	15	215	37e	160 FNL & 1350 FWL	110		TVA	na	ne
-	30-025-39831(added 2010)	Chevrou State S no. 2	· c	15	215	37e	990 FNL & 1330 FWL				check again 2012 report	na .
1	30-025-34887	Apache NEDU 624	c	15	215	37e	1250 FNL & 1368 FWL	yes. yes	1	no no	check again 2012 report	check again 2012 report check again 2017 report
V	30-025-06586	Chevron St. 701	D	15	215	37e	660 FNL & 660 FWL	1007	1 1			
4	30-025-06612	Chevron St. 001	D	15	215	37e	660 FNL & 990 FWL			yes	yes	no
	30-025-06614			15				yes.	1	YES	yes	no.
1		Apache NEDU 601	D		215	37e	600 FNL & 990 FWL	yes.	- 3	yes	yes	no .
1	30-025-36809	Apache NEDU 526	D	15	215	37e	130 FNL B 330 FWL	yes	1	100	check again 2012 report	clinch again 2012 report
1	30-025-06585	Apache St. 602		15	211	37e	1980 FNL & 1980 FWL	1903		0.0	Pa .	na
1	30-025-06587	Apache NEDU 606	F	15	215	37e	3375 FSL & 3225 FEL	1902		tia .	ria	198
1	30-025-06590	Apache NEDU 608	F	15	215	37e	1950 FNL & 1860 FWL	110		PM .	P.a.	na
1	30-025-06603	Apache Argo 006	K	15	215	37e	1650 FSL & 2310 FWL	no		na-	na	ne ne
1	30-025-06607(added 2010)	Apache Argo 011	K-	15	219	37e	2060 FSL & 1650 FWL	VIO.		ma.	00	na
1	30-025-09916	Apache NEDU 703	160	15	215	37e	1980 FSL & 1980 FWL	110		ne.	na -	në .
1	30-025-3902#	Apache Argo 14	40	15	215	37e	2190 FSL & 2130 FWL	THE		DA	rsa .	na
1	30-025-34657	Apachie NEDU 623	K	15	215	37e	2540 FSL & 2482 FWL	ma		ma	na	na
4	30-025-06606			15		170	4800 FE 4 350 FM	-				
2		Apache Argo 010	1		215	37e	1880 FSL & 760 FWI	no		ne	na	na
1	30-025-09915	Apacha Argo 007	- 4	15	215		2310 FSL & 990 FWL	no		rsia .	na -	Tala
3	30-025-09916	Apache NEDU 701	- 1	15	215	37e	1980 F5L & 660 FWL	no		110	na	, na
4	30-025-34888	Apache NEDU 713		15	215	37e	1330 FSL h 1142 FWL	793		79.0	PAR	No.
4	30-025-37238	Apachie NEDU 629	F	-15	215	37e	2630 FSL & 330 FWL	Aur	1	NO.	check again 2012 report	check again 2012 report
2	30-025-06623	Apache WBDU 057	· A	16	215	37e	660 FNL B. 660 FEL.	yes.	1	no	check again 2012 report	check again 2012 report
4	30-025-25198	Chevron HLNCT 006	A	16	215	37e	330 FNL & 600 FEL	.00		NO-	na	na
3	30-025-39277	Apache WBDU 113	A	16	215	37e	1290 FNL & 330 FEL	611	1 1	yes	yes	no
1	30-025-06621	Apachin WBOU 056	91	16	21s	37e	1980 FNL & 660 FEL	yes	1	60	cleck again 2012 report	check again 2012 report
2	30-025-06624	Chevron HLNCT 005	- 11	16	215	37e	2310 FNL & 330 FEL	yes	1	ne	cleck again 2012 report	check again 2012 report
1	30-025-36741	Chevron HLNCT 067	H	16	215	37e	1330 FNL & 1070 FEL	no		158	00	08
1	30-025-37834	Chevron HUNCT 000	н	16	211	37e	2310 FNL & 030 FEL	yes	3	no	check again 2012 report	check again 2012 report
1	30-025-06617	Anache St. DA 005	1	16	215	37e	1980 FSL & 330 FEL	110		na	na	704
1	30-025-06619	Apache WBD0078	1	16	219	37e	1980 FSL & 660 FEL	FHQ		0.0	na .	04
1	30-025-37916	Apache St. DA 013	1	16	216	37e	1650 FSL & 780 FEL	90		THE	On .	00
	30,000,000	Administration of the Ages					The contract of the				7-10	- 100

³⁹ Total # of wells in adjacent quarter-sections
15 Total # of wells in 1/4 mile ADR
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.



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 US 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 US A INC

7 Regards Found

Displaying Screen 1 of 1

Continue

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 | of 1

Continue

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.

DEC 2011

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 Reports Found

Displaying Screen 1 of 1

Continue

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.

DEZ 2011

5 Records Found

Displaying Screen 1 of 1

Footages

API Number ULSTR

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

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.

DEE 2011

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

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.

DÉE 2011

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 US 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 Reports Found

Displaying Screen 1 of 1

Continue Go

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.

DEC 2011

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

5 Records Found

Displaying Screen 1 of 1

Continue

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.

11EC 2011

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

2 Records Found

Displaying Screen 1 of 1

Continue

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

DEC 2011

State of New Meson Repland Salarany 10, 1994 propertions on back liamons to Appropriate District Division Delott I II D. Hux 1989, Hober, NN 86261-1980. Energy, Minerals and Natural Resources Dep Desert # If O Drawer DO. Arless. Hill N2211-0716 OIL CONSERVATION DIVISION N Copye Consect 65 1000 Strange Ref. Agreet, 668 E7410 AMENDED REPORT Desirable Services and Anthree REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT

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2000 Post Clark Bird, Suite 100.

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Suite Su P.O. See 2062, Santa Fe, 766 87509-2085 CG effective 8/1/1998 Eunice Blinebry-Tubb-Drinkerd-North 22900 30-025-09914 Northeast Drinkard Unit 22503 Surface Location
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V Well Completion Data Vi Well Test Data OIL CONSERVATION DIVISION - faul M. 10 TO 10 M Pamela M. Lesghton SEP 2 1 1998 Regulatory Analyst 713-296-7120

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State of New Mexico Submit 3 copies O Appropriate State of New Mexico State of New Mexico State of New Mexico State of New Mexico State of New Mexico State of New Mexico	form C-103 Revised 1-1-89
OIL CONSERVATION DIVIS	
P.O. Box 1980, Hobbs, NM 88240 P.O. Box 2088	30 025 06612
OISTRICT II Santa Fe, New Mexico 87504-208	5. Indicate Type of Lease STATE STATE FEE
DISTRICT III	6. State Oil / Gas Lease No.
000 Rio Brazos Rd., Aztec, NM 87410	B-9188
SUNDRY NOTICES AND REPORTS ON WELL (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BAY 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 GAS WELL OTHER	6 9000
2. Name of Operator TEXACO EXPLORATION & PRODUCTION INC	8, Well No. 5
3. Address of Operator P.O. BOX 730, HOBBS, NM 88240	Pool Name or Wildcat Penrose Skelly Grayburg
4. Well Location Linit Letter D : 660 Feet From The NORTH Line and	990 Feet From The WEST Line
Olin Lond.	NMPM LEA COUNTY
Section 15 Township 21S Range 37E	
10. Elevation (Show whether DF, RKB, RT, GR, etc.)	
PULL OR ALTER CASING CASING CASING TEST	SUBSEQUENT REPORT OF:
OTHER:	Recompletion
 Describe Proposed or Completed Operations (Clearly state all pertinent details, and gany proposed work) SEE RULE 1103. Objective: Abandon Drinkard, Complete Penrose Skelly Grayburg Set 5 1/2" CIBP w/35' cement cap - New PBTD=6395' Perf 5 1/2" casing w/8 SPF 3841-51' (80 holes) Acidize perfs w/1550 gal 15% NEFE Ran 2 3/8" tubing w/5 1/2" packer set @ 3781' O4/06/94: Flow 1 oil, 108 wtr, 626 MCF, 23/64" choke @ 210#. 	
SIGNATURE THE Internation above is true and complete to the lees of my knowledge and bollet. TITLE Engineering Ass	sistant DATE 4/14/94

ORIGINAL SIGNED BY JERRY SEXTON DISTRICT I SUPREMISOR

Larry W. Johnson

TYPE OR PRINT NAME

CONDITIONS OF APPROVAL, IF ANY

APPROVED BY_

Telephone No.

397-0426

DISTRICT I P.O. Box 1980, Hobbs, NM 88241-1980 DISTRICT II

P.O. Box Drawer DD, Artesia, NM 88211-0719

23/64

Oil - Bbls.

1

I hereby certify that the rules and regulations of the Oil Conservation

42 Water - Bbis.

108

40 Choke Size

Energy, Minerals and Natural Resources Department OIL CONSERVATION DIVISION

State of New Mexico

P.O. Box 2088

Form C-104 Revised February 10,1994 Instructions on back Submit to Appropriate District Office 5 Copies

45 Test Method

AOF

OIL CONSERVATION DIVISION

.O. Box 2088	, Senta Fe,	NM 87504-2088 REQ		R ALLOW	ABLE AND	AUTHOR	IZATIO	N TO TRANSF	ORT			
				and Address					RID Num			
TEXACO EX	PLORATIO	ON & PRODUCT	TION INC						02235			
P.O. BOX 73	BO, HOBBS	, NM 88240						3 Re	ason for F	iling Code		
4 API	Number				⁵ Pool	Name				⁸ Pool	Code	
	025 06612					Skelly Graybu	rg				350	
7 P	onerty Cod	•				erty Name				^e We	ll No.	
10 Surfac	e Locatio	in.							-			
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11 Botton	n Hole Lo	cation										
Il or lot no.	Section	Township	Range	Lot.ldn	Feet From Th	e North/S	outh Line	Feet From The	East/W	Vest Line	County	
Lse Code S	13 Producis	ng Method Code		nnection Date 3/15/94	¹⁵ C-129 Pe	rmit Number	16	C-129 Effective Dat	•	17 C-129	Expiration Dat	
l. Oil an	d Gas Tra	insporters										
18 Transpor		19 Tra	insporter Na and Address	me	20	POD	21 O/G			Description		
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25 5	Spud Date	2	8 Ready Da 3/18/94		27 Total 81			²⁸ PBTD 6395			orations 41-51	
91	HOLE SIZE		31 CA	SING & TUBIN	G SIZE		DEPTH S			SACKS CE	MENT	
7 1/2"			13 3/8*			294'			00			
1.			8 5/8"			2974'			000			
6 3/4"			6 1/2"			8147'		5	00			
I. Well T	est Data											
34 Date I		36 Gas Dell	very Date		e of Test 4/07/94		h of Test	38 Tubing F	ressure 0	39 Cas	ing Pressure O	

40 Gas - MCF

is true and complete to the best of my knows	i —	Approved By: ORIG	INAL SIGNED BY JERRY SEXT DISTRICT I SUPERVISOR	ON
Printed Name Larry W. Johns Title Engineering Assistant	on	Approval Date:	APR 1 3 1994	
Date 4/8/94	Telephone 397-0426			
47 If this is a change of operator fill in the O	GRID number and name of the previous operator			
Previous Operator S	ignature Printed Name		Title	Date

E

2A Prinkard

1

nalaineria Appaniment Bantan Cittar

TYPE OR PRINT NAME

State of New Mexico

Form C-101

397-0425

Telephone No.

DISTRICT III. APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK TATE STATE S TYPE of Work DRILL RE-ENTER DEEPEN DEEPEN MULTIPLE ZONE DISTRICT WELL OTHER TEXACO EXPLORATION & PRODUCTION INC. TEXACO EXPLORATION & PRODUCTION INC. TEXACO EXPLORATION & PRODUCTION INC. TEXACO EXPLORATION & PRODUCTION INC. TOWNShip 21S Range 37E NMPM LEA COUNTY TOWNShip 21S Range 37E NMPM LEA COUNTY TOWNSHIP TO PROPOSED CASING AND CEMENT PROGRAM SIZE OF HOLE SIZE OF CASING WEIGHT PER FOOT SETTING DEPTH SACKS OF CEMENT EST. TOP 17 12" 10 MIRUPU Kill well. Pull rods and pump. Install BOP. TOH with tubing. APPLICATION APPRISON BOY. DEPENT OF THE WIEST CIRC APPRISON OF THE WEIGHT STORY APPLICATION BOY. DEPTH SACKS OF CEMENT EST. TOP 2974 1 MIRUPU Kill well. Pull rods and pump. Install BOP. TOH with tubing. APPLICATION BOY. DEPTH SACKS OF CEMENT STORY PROPOSED LASING SIZE OF CASIND. OPER. OGRID NO. 2570' OPER. OGRID NO. 2570' OPER. OGRID NO. 2570' PROPERTY NO. 211 A BOY. CEMENT STORY A BOY. CEMENT STORY OPER. OGRID NO. 2570' OPER. OGRID NO. 2570' OPER. OGRID NO. 2570' OPER. OGRID NO. 2570' OPER OGRID N	OISTRICT 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 APPLICATION FOR PER 1a Type of Work DRILL RE-ENTER b. Type of Well: OIL GAS	P.O. Box 20 Santa Fe, New Mexic MIT TO DRILL, DEEPEN, OR DEEPEN SINGLE	088 CO 87504-2088 PLUG BACK PLUG BACK	5. Indicate Type of Les 6. State Oil / Gas Leas 7. Lease Name or Uni	STATE FEE [se No. B-9188
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Type of Well: OIL GAS WELL OTHER Name of Operator Address of Operator Address of Operator Dinit Letter D 660 Feet From The NORTH Line and 990 Feet From The WEST Line Section 15 Township 21S Range 37E NMPM LEA COUNTY 100. Proposed Depth 6385' 11. Formation 12. Rolary or C.T. GRAYBURG 3. Elevations (Show whether DF, RT, GR, etc.) 14. Kind and Status Plug Bond 15. Drilling Contractor 16. Approx. Date Work will state 14. Size OF HOLE Size OF CASING WEIGHT PER FOOT SETTING DEPTH SACKS OF CEMENT EST. TOR 17. Size OF HOLE Size OF CASING WEIGHT PER FOOT SETTING DEPTH SACKS OF CEMENT EST. TOR 17. Size OF HOLE Size OF CASING WEIGHT PER FOOT SETTING DEPTH SACKS OF CEMENT EST. TOR 17. Size OF HOLE Size OF CASING WEIGHT PER FOOT SETTING DEPTH SACKS OF CEMENT EST. TOR 17. Size OF HOLE Size OF CASING WEIGHT PER FOOT SETTING DEPTH SACKS OF CEMENT EST. TOR 17. Size OF HOLE Size OF CASING WEIGHT PER FOOT SETTING DEPTH SACKS OF CEMENT EST. TOR 17. Size OF HOLE Size OF CASING WEIGHT PER FOOT SETTING DEPTH SACKS OF CEMENT EST. TOR 17. Size OF HOLE Size OF CASING WEIGHT PER FOOT SETTING DEPTH SACKS OF CEMENT EST. TOR 17. Size OF HOLE Size OF CASING WEIGHT PER FOOT SETTING DEPTH SACKS OF CEMENT EST. TOR 17. Size OF HOLE Size OF CASING WEIGHT PER FOOT SETTING DEPTH SACKS OF CEMENT EST. TOR 17. Size OF HOLE Size OF CASING WEIGHT PER FOOT SETTING DEPTH SACKS OF CEMENT EST. TOR 17. Size OF HOLE Size OF CASING WEIGHT PER FOOT SETTING DEPTH SACKS OF CEMENT EST. TOR 17. Size OF HOLE Size OF CASING WEIGHT PER FOOT SETTING DEPTH SACKS OF CEMENT EST. TOR 17. Size OF HOLE Size OF CASING WEIGHT PER FOOT SETTING DEPTH SACKS OF CEMENT EST. TOR 17. Size OF HOLE Size OF CASING WEIGHT PER FOOT SETTING DEPTH SACKS OF CEMENT EST. TOR 17. Size OF HOLE Size OF CASING WEIGHT PER FOOT SETTING DEPTH SACKS OF CEMENT EST. TOR 17. Size OF CASING WEIGHT PER FOOT SETTING DEPTH SACKS OF CEMENT EST. TOR 17. Size OF CASING WEIGHT PER FOOT SETTING DEPTH SACKS OF CEMENT EST. TOR 17. SIZE OF CASING WEIGHT PER FOOT SETTING DEPTH SACKS OF CEMENT EST. TOR 17. SIZE	Type of Well: OIL GAS G	SINGLE			
Value of Version Versi	OIL GAS			SIAIES	
TEXACO EXPLORATION & PRODUCTION INC. 5		Zoni			
Well Location		RATION & PRODUCTION INC		8, Well No. 5	
Unit Letter D	Address of Operator P O BOX 730, HC	DBBS, NM 88240	******	9. Pool Name or Wildo SKELLY PI	ENROSE GRAYBURG
Section 15 Township 21S Range 37E NMPM LEA COUNTY		No.	DYLL Line and DOD	Feet From The M	JEST Line
10. Proposed Depth 6395 11. Formation 12. Rotary or C.T.	Unit Letter D : 66	Feet From The NO			Wald a conservation
Selevations (Show whether DF, RT, GR, etc.) 14. Kind and Status Plug Bond 15. Drilling Contractor 16. Approx. Date Work will state 3/10/94 17. 18. Approx. Date Work will state 3/10/94	Section 15 To	wnship 21S	Range 37E N	MPM	LEA COUNTY
PROPOSED CASING AND CEMENT PROGRAM SIZE OF CASING WEIGHT PER FOOT SETTING DEPTH SACKS OF CEMENT EST. TOP	10	0. Proposed Depth 6395	GRAYBURG		March Co. No.
SIZE OF HOLE SIZE OF CASING WEIGHT PER FOOT SETTING DEPTH SACKS OF CEMENT EST. TOP 17 1/2" 13 3/8" 36# 294" 300 CIRC 11" 8 5/8" 24# 2974" 2000 CIRC 6 3/4" 5 1/2" 15.5 & 17# 8147" 500 2570" 1 MIRUPU Kill well. Pull rods and pump. Install BOP, TOH with tubing. OPER. OGRID NO. D23.3 2 Abandon Drinkard perfs: set 5 1/2" CIBP at 6430" & cap with 35" cement. PROPERTY NO. PROPERTY NO.				3/10	
7 1/2" 13 3/8" 36# 294" 300 CIRC 11" 8 5/8" 24# 2974" 2000 CIRC 6 3/4" 5 1/2" 15.5 & 17# 8147 500 2570" 1 MIRUPU Kill well. Pull rods and pump. Install BOP. TOH with tubing. 2 Abandon Drinkard perfs: set 5 1/2" CIBP at 6430" & cap with 35" cement. 3 Pun Cement Bond Lon and CR-CNL Log.	7				FOT 700
17 8 5/8" 24# 2974' 2000 CIRC 18 5/8" 5 1/2" 15.5 & 17# 8147' 500 2570' 1 MIRUPU Kill well. Pull rods and pump. Install BOP. TOH with tubing. 2 Abandon Drinkard perfs: set 5 1/2" CIBP at 6430' & cap with 35' cernent. 3 Pun Cernent Bond Log and GR-CNL Log.	SIZE OF HOLE SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEME	
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1 MIRUPU Kill well, Pull rods and pump, Install BOP, TOH with tubing: 2. Abandon Drinkard perfs: set 5 1/2" CIBP at 6430' & cap with 35' cement. 3. Pup Cement Bond Log and GR-CNL Log.	5 3/4" 5 1/2"	15.5 & 17#	8147		
5. Acidize perfs with 1500 gals 15% NEFE acid. 6. Frankling stimulate parts with 33 000 gals get & 110,000 lbs 16/30 sand.	 Run Cernent Bond Log and GR-CNL Log. Perforate the Grayburg from 3850' - 3850'. Acidize perfs with 1500 gals 15% NEFE ac Fracture stimulate perfs with 33,000 gals grays. 	id.		POOL CODE	39-94

Dan A. Dunham

SION

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

January 31, 1951

Date

OIL CONSERVATION COMMISSION, Santa Fe, New Mexico,

Gentlemen:

. c. 16	Company or	County R 37-E , N. M., P. M., Brunson Field, Lea County
Sec.	ж	The well is 660 feet (S.) of the N line and 990 feet (E.) 1000 of the W line of Section 15, 21S, 37E
•		(Give location from section or other legal subdivision lines. Cross out wron directions.)
		If state land the oil and gas lease is No. B-9188. Assignment No.
	22065	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

The status of a bond for this well in conformance with Rule 39 of the General Rules and Regulations of the Commission is as follows: Blanket Bond dated Nov. 30, 1937, with Saint Faul-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 Coment
17 1/2"	13 3/8"	36#	New	280	Cemented	300
11#	8 5/8"	24# end 32#	New	28001	Cemen ted	2000
6 3/4"	5 1/2"	17#	New	7800*	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 7600 feet.

Additional information:

Approved FEE - 5 1951	Sincerely yours,
except as follows:	Tide water Associated Oil Company
	Position J. B. Holloway Authorized Employee
OIL CONSERVATION COMMISSION,	Send communications regarding well to
By liet & authority to	Name J. E. Springer, c/o Tide "ater Assoc. Oil Company,
Title O. Blos inscentor	Address Midland, Texas

Submit 3 Copies 7	To Appropriate District	State of N Energy, Minerals at				Form C-103 May 27, 2004
District	r., Hobbs, NM 88240	WELL API NO.				
District II	vc , Artesia, NM 88240	30-025-06614 F				
District III	DA Arter 3114 97410 - A	STATE	5. Indicate Type of Lease STATE ⊠ FEE □			
District IV 1220 S St France	Rd , Aztec, NM 87467 2 s Dr , Santa Fe, NM	6. State Oil & Gas Lease No. BD - 91PP				
(DO NOT USE TI	SUNDRY NORSHIS FORM FOR PROPOSA SERVOIR. USE "APPLICA	7. Lease Name or Unit Agreement Name Northeast Drinkard Unit				
PROPOSALS)		Gas Well Other	1		8. Well Number	01 /
	e of Operator	1			9. OGRID Number	2
3. Address of	Apache Corpo	oration /			10. Pool name or Wild	873
		e. 3000, Midland, TX 79	705		Eunice, Blinebry-Tub	
Section	Letter D : 600 on 15 Township		line and 37E	NMPM	from the W line	Lea
不知题图 不 不	TO STATE OF THE ST		3459' GR			
Pit or Below-grad	le Tank Application or		e facility and fa	na coste Piloto	nce from nearest surface water	N/A
Pit type Pit Liner Thickne	Depth to Groundwat	erDistance from neares Below-Grade Tank: Volume	it iresh wate		struction Material	_101
Pit Laner I nickne			icata Mai		e, Report or Other Data	3
	HOTIOF OF ILL				UBSEQUENT REPO	JKI OF.
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TEMPORARIL PULL OR ALT OTHER: drilli 13. Descri of starr or reco 10/10/11 Tag 10/11/11 Tbg Sp 10/12/11 Pe Pe 10/13/11 Th Ti Ti Pe () I hereby certify grade tank has been signature. Type or print no	EMEDIAL WORK LY ABANDON ER CASING Out & add Plugs be proposed or completing any proposed wor ompletion. LY (5 ft ng C) TOC @ 5,620' TOC @ 5,620' TOC @ 3,040' - Unable of @ 3,040' - Unable of @ 1,306' - Spot 25 of @ 1,306' - Spot 25 of @ 100' - Circ 50s of @ 100' - Circ 50s of @ 1,00' - Circ 50s of @	PLUG AND ABANDON CHANGE PLANS MULTIPLE COMPL Seted operations. (Clearly: k). SEE RULE 1103. Fo BY WMLF. Test csg - ON A 15 Place of to Sqz. Tbg @ 4,082' - S To Sqz. Tbg @ 3,090' - S sx cmt No face sx cmt No face cmt Tag @ 200' x cmt to surface. RDMO Dove is true and complete losed according to NMOCD gr TITLE E-mail address:	state all per Multiple state all per Multiple for Multiple spot 25sx spot 25sx for Mole	REMEDIAL W COMMENCE CASING/CEN OTHER: ertinent details, Completions: 5 (13. 12 = (0 Ca cmi - Tag@3 cmt - Tag@2 10 C D 10 C Ca cmi - Tag@2 10 C D 10 C Ca cmi - Tag@3 cmt - Tag@2 10 C D 10 C Ca cmi - Tag@3 cmt - Tag@	Approved for plugging of Liability under hond is not Clability Sport 40 Symmetry www.mnrd.state. S85' 740' Sport 40 Symmetry under hond is not concluded in the concluder of	Cluding estimated date of proposed completion well bore only. I well bore only. I wall

Submit 3 Copies To Appropriate District Office District I	State of I Energy, Minerals	21 8 5 7 1 10 1 60	SECTION SECTION	Form C-103 May 27, 2004		
1625 N. French Dr., Hobbs, NM 88240 District II				WELL API NO	30-025-06614	
1301 W. Grand Ave., Artesia, NM 88210 District III	1220 South St. Francis Dr.				e of Lease	
District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505	trict IV. Santa Fe, NM 87505 00 S. St. Francis Dr., Santa Fe, NM					
SUNDRY NOTION (DO NOT USE THIS FORM FOR PROPOSE DIFFERENT RESERVOIR. USE "APPLICE")	CES AND REPORTS ON ALS TO DRILL OR TO DEEP ATION FOR PERMIT" (FORM	EN OR	PLUG BACK TO A	7. Lease Name Northeast Drink	or Unit Agreement Name and Unit	
PROPOSALS.) 1. Type of Well: Oil Well X	Gas Well Other			8. Well Numbe	r 601	
Name of Operator Apache Corpo	ration			9. OGRID Nun	o0873	
3. Address of Operator 6120 South	74136-4224			10. Pool name o	or Wildcat	
4. Well Location		-		Eunice Blinebi	ry - Tubb - Drinkard - North	
Unit Letter_D : 0	feet from the		line and _99	0feet fr	om the West line	
Section 15	Township 218		Range 37E	NMPM	CountyLea	
	 Elevation (Show wh 3459' GR 	ether L	OR, RKB, RT, GR, etc.			
Pit or Below-grade Tank Application or			A. P			
Pit typeDepth to Groundwa			n water well Dis	tance from nearest su	rface water	
Pit Liner Thickness: mil	Below-Grade Tank: Vol	ume	bbls; C	onstruction Material		
	ppropriate Box to Inc	ncate				
NOTICE OF INT	PLUG AND ABANDON			SEQUENT RI		
TEMPORARILY ABANDON	CHANGE PLANS		GOMMENCE DR		ALTERING CASING P AND A	
PULL OR ALTER CASING	MULTIPLE COMPL	ō	CASING/CEMEN		- AND A	
OTHER:		_				
Describe proposed or complete of starting any proposed work or recompletion.	eted operations. (Clearly k). SEE RULE 1103. Fo	state al	OTHER: il pertinent details, an iple Completions: At	d give pertinent da tach wellbore diag	tes, including estimated date gram of proposed completion	
Isolate 5-1/2" casing leak, 4942' - 49 Pulled out of retainer. Set cmt retaine psi. Did not hold. Test backside to 50 Neat. Test squeeze ok. Acidize Bline production.	er @ 4880'. Squeeze casin 00 psi, held ok. Set retain	ng leak er @ 5	with 350 sxs Class C 320' and squeeze with	Set packer @ 532	22'. Test squeeze to 500	
hereby certify that the information at trade tank has been/will be constructed or	T	ITLEE -mail a	ngineering Technician address:elaine.linton@	or an (attached) altern n papachecorp.com(ner certify that any pit or below- native OCD-approved plan	
4	le Jan DOC FIELD	REFRE	SENTATIVE LISTAF	F MANAGES		
APPROVED BY: (if and):	T	ITLE_		774	_DATE	
0"					JAN 1 4 2005	

Clistrict I P D. Box 1950, Hobbin, NM 86241-1950 District II

State of New Mexico Energy, Minerals and Natural Resources Department

Form C-104 Revised February 10, 1994 Insturctions on back

P.O Drawer DD, Artesia, NM 88211-0719

OIL CONSERVATION DIVISION

Submit to Appropriate District Office

District Property and party and	NM 87504-2088	nene voltas i				70	FDANICO	OPT			
		EST FOR ALL	OWABLE	AND AU	HORIZATION	10	OGRID Numbe	d d			
Operator name and Address Apache Corporation						000873					
2000 Post C		Reason for Filing Code									
Houston, TX							CG effec	tive 8/1/199	8		
API Number	77000	Pool Name	17 200	200000				Pool Code			
30-025-066	14	Eunice Bline	bry-Tubb-	Drinkard-N	lorth	_		22900	_		
Property Code		Property Name	nintened I to					601			
22503		Northeast D	minkaru Or	III				-			
	Section Section	Township	Range	Lot Idn	Feet from the	North/South line		Faet from the	East/West line County		
U) or lot na.	15	215	37E	1000	660	S		990	0 W	Lea	
	Bottom Ho	le Location									
Lil or lot no	Section	Township	Range	Lot ldn	Feet from the	North	South line	Feet from the	East/West line	County	
						T of	no Financia - D		C. 120 FV	piration Date	
Las Code		Method Code	Gan Con	nection Date	C-129 Permit Number	18	29 Effective D.	are	01129 24	pilesion sale	
S		P				-	_		_		
		W Transporter Name			P00	21 OVG		IL POD ULSTR	Location		
Transporter DGR/D		and Address						and Desripti		_	
037480	EOTT En	ergy Pipeline L	P		2264710	0	A COMMUNICATION OF	2, T21S-R37			
	P O Box 4						NEDU C	entral Batte	ıy		
	Houston '	TX 77210-466	66				1 1				
024650	Warren P				2264730	G	1				
02,000	P O Box 1										
	Tules OV	74402									
022628	Tavas-Ne	ulsa, OK 74102 exas-New Mexico Pipeline Co				0	100				
022020	P O Box 5										
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200000		O 80217-557 rdson Gasoline		-	2264730	G	-				
020809		St., Suite 300		- 1	2204100	1.7					
					-	90					
		TX 76102		-							
Produced V	Vater		-	H POD ULSTRI	ocation and Description						
2264750	A Sec 2	T21S-R37E									
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Spud Date	lebon Data	3 Ready Date		77 TD	29	PBTD		29	Perforation	n.s	
48,00,000			1						Wall Paris		
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Well Test I		Delivery Date	13	Feet Date	37 Test Length		The Pres	paure '	39 Css	Pressure	
Date Mew Cit		armit and	14			4		-			
Choke Size	AT.	Di	42	Water	42 Gas		ACP		as Te	et Metrod P	
							-	-			
i hereby partify th	at the rules of the C	di Conservation Divisio	have been con	nplied		OIL	CONSE	RVATION D	IVISION		
	nation given above	a true and complete to	the best of my		1						
h and that the inform		7				OR	GINAL	GIGNED BY			
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h and that the inform owledge and belief	Dinted Name						TIELL	350 11			
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h and that the information and belief practice. Parish Parish Miles Parish Miles Regulatory	12 - 10 -				Approval Date	EF	W.T. IN				
h and theil the information wheeligh and belief inseture. Parmela M. Parmela M.	y Analyst	Phone 713-296-7	7120		Approval Date		W 7 14				

OIL CONSERVATION COMMISSION Santa Fe, New Mexico

REQUEST FOR (OIL) - (GAS) ALLOWABLE

It is necessary that this form be submitted by the operator before an initial allowable will be assigned to any completed oil or has well. Form C-100 (Certificate of Compliance and Authorization to Transport Oil) will not be approved until Form C-104 is filed with the Commission. Form C-104 is to be submitted in triplicate to the office to which form C-101 was sent. Two copies will be retained there and the other submitted to the Proration Office, Hobbs. New Mexico. The allowable will be assigned effective 7:00 a.m. on date of completion, provided completion report is filed during month of completion. The completion date shall be that date in the case of an oil well when oil is delivered into the stock tanks. Gas must be reported on 15,025 P.B. at 60° Fahrenheit.

Bex 547,	Hebbs	New Meg	deo	Nay 1 1952				
WIV THE HER	REBY RES	WESTING .	AN ALLOWABLE FOR A WELL, KNOW	N AS:				
Tide Wate	er Asso	cisted Of	1 Co. State MSH Well	No. 7 in 22 1/4 W 1/1				
section 2	15 .	r. 21-S	R. 37-E N.W.P.W. Brune	Pool Les Comit				
Tease Ind	licate 1	ocation:	Flevation 26591 Spude	led 2-20-52 Completed 1-27-52				
	-	7	Total Depth 815	P.B				
I		1	for Oil/Gas Pay 79201 Initial Production Test: I	Top hater Pay				
	1.5	1		· JULIUMANA				
		1 1	Based on 160.95 Bbls. Oil i					
4	110	4-	Method of Test (Pitat gau					
		1 1	Size of choke in Inches	30/6411				
		1		8055				
		7	Pressures: Tubing 325 p	dg. (asin: Packer set & 7924				
			Gas Oil Ratio 1076 cu.ft.	[18]				
0.00			79881 to 80561					
buit her	ct:	D	Acid Record:	Show at 011.Gas and water				
202200		Vision and						
Cusing & (5000 Gals 7988 to 8	056 - S 011				
Size	Inet	Sax	Gals to	8/				
	7.4		Shooting Record.	8				
13 3/8	293	300	Ots to	8				
0 1/0	2000	1700	Uts to	5/				
8 5/8	2990	1700	Uts to	S/				
E 7/2	mini	350		Sambhing				
	-	1000	Natural Production Test:	None Howing Howing				
(52" hun	g in 8-		Test after acid or shot:	Pumping 237.71 Flowing				
dense inc	licate	elow for	mation Tops (in conformance v	with geographical section of state				
		southeast	ern New Wexico	Northwestern New Mexico				
V. Aribia			T. Devonian	r. Opo Mano				
I. Salt			f. Silurian	T. Kirtland-1rnitland				
it. Salt			T. Montoya	T. Farmington				
1. Inter-			T. Simpson 73691	T. Pictured Cliffs				
i. 7 Hive	P5.		I. McKer 7576	T. Cliff House				
J. Quesen			T. Ellenburger 79761	T. Point Lookout				
I. Grayler		20001	T. Gr. Wash	T. Mancos				
1. San And		39821	T.	T. Dakota				
1. Orinka		5181	T	I. Morrison				
I. Tubbs		63571	T. Connell 79031	T. Penn				
T. Abo		07.33	T.	T				
				124				
L. Penn		-	T	_ T•				

SIZE OF HOLE	SIZE OF	WHERE SET	NO. BACKS OF CEMENT	METHODS USED	MUD GR	AVITY	AMOUNT OF MUD USED
174"	13-3/8	293	300	Halliburton	Nativ		
117	8-5/8	2990	2000	Б	Rest IV	G .	
6-3/4	56	8142	350	H.	9.34/	jal.	
	(5)	Liner in	mg in 8-5/6"	easing - 2847	1)		
				PLUGS AND ADAP			
Teaving	plug-Ma	terial		Length	L	Depth 8	Set
danters	- Mater	al			Size	***************************************	
Mapiero	***************************************			HOOTING OR CHI			
			EXPLOSIVE OR CHEMICAL USED	QUANTITY	DATE	DEPTH SHOT OR TREATED	DEPTH CLEANED OUT
SIZE	SHEL	L USED		1 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	- 200	7988 - 805	
	1	1.	5% Rogular Ac	id 5000 gals	4-26-52	n 51 liner	
	-				/herrs *	1 /2	
	_		N	o natural prod	netion bef	ore acid tr	eatment, well.
Results	of shootin	g or chemica	al treatment	o natural prod			
LOWB	d 238 b	in follo	wing treatmen	5.			
Cable to	ols were t	sed from	feet	PRODUCTION			eet tofee
Dut to n	roducing	4-27		19. 52			
The pro	duction of	the first 24	hours was 23	7.71 barrels	of fluid of wh	ich 100	% was oil;
emulsion	10	% wate	r: and	% sediment. Grav	ity, Be		
If pas w	ell. cu. ft.	per 24 hours		Gallon	s gasoline per	1,000 cu. ft. of	as
reoca pr	0000101 100	200 000		EMPLOYEES			
	R. B	. Griffin		The second secon		. R. Robbins	Drille
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My Com	minosion ex	par ca	······································				The control of

NLW MEXICO OIL CONSERVATION CC MISSION

MISCELLANEOUS REPORTS ON WELLS

Submit this report in triplicate to the Oil Conservation Commission District Office within ten days after the work specified is completed. It should be signed and filed as a report on beginning drilling operations, results of shooting well, results of test of casing shut oil, result of plugging of well, and other important operations, even though the work was witnessed by an agent of the Commission. See additional instructions in the Rules and Regulations of the Commission.

Indicate nature	e of rep	ort by checking below	٧.			
REPORT ON BEGINNING DRILLING OPERATIONS		REPORT ON REPAIRING WELL				
REPORT ON RESULT OF SHOOTING OR CHEMICAL TREATMENT OF WELL		ALTERING		WISE		
REPORT ON RESULT OF TEST OF CASING SHUT-OFF	x	REPORT ON D	EEPENING WELL			
EPORT ON RESULT OF PLUGGING OF WELL						
March 4, 195	2	Box 547a He	obbs, New Mexico	Place		
following is a report on the work done and the results	obtained	under the heading no	ted above at the Tide	e Water in the		
Associated Oil Co. Company or Operator	State	Lesse	Well No			
mi'll of Walls of Sec. 13		ing Times The Control of the Control	initial Amount in the Amount i			
Pool		Lea_,		County.		
The dates of this work were as follows:	Febru	TY 29. 1952	na 180-18 (1811-1911) - 1844-1911 (1811-1911)			
DETAILED ACCOUNT OF	WORK	DONE AND RESUL	ila oblambo	behind		
DETAILED ACCOUNT OF We set 8-5/8" casing at 29 8-5/8" casing is 160' from surfa 30 min.	WORK	DONE AND RESCI	ment top cement	behind i for		
We set 8-5/8" casing at 29 8-5/8" casing is 160' from surfa 30 min.	90' wi	Associated Cil	nent top cement and held 1000 ps:	i Roustabout Title ormation given above		
Witnessed by L. W. Hogue Name	90' wi	th 2000 sks cerasing tested at	Co. Head	i Roustabout Title ormation given about H.P. Shack		

NEW MEXICO OIL CONSERVATION COMMISSION

MISCELLANEOUS REPORTS ON WELLS

Submit this report in triplicate to the Oil Conservation Commission District Office within ten days after the work specified is completed. It should be signed and filed as a report on beginning drilling operations, results of shooting well, results of casing shut off, result of plugging of well, and other important operations, even though the work was witnessed by an agent of the Commission. See additional instructions in the Rules and Regulations of the Commission.

REPORT ON BEGINNING DRILLING OPERATIONS		REPORT ON REPAIRING WELL	
REPORT ON RESULT OF SHOOTING CR CHEMICAL TREATMENT OF WELL		REPORT ON PULLING OR OTHERWISE ALTERING CASING	
REPORT ON RESULT OF TEST OF CASING SHUT-OFF	x	REPORT ON DEEPENING WELL	
REPORT ON RESULT OF PLUGGING OF WELL			
Following is a report on the work done and the results of			
		Lease Well No 7	M. P. M., County.

We set 5½" liner at £142' w/350 sks regular cenent. 5½" liner was hung in \$-5/8" casing at 2847'. Top of cement behind 5½" liner is 5400'. Liner tested and held 1000# for 30 min.

Witnessed by. R. W. Hogue Name Tide Water	Associated Oll Company Head Roustabout
APPROVED: OIL CONSERVATION COMMISSION	I hereby swear or affirm that the information given above is true and correct.
noy yarhrays	Name & F. c. Macket Son H.P. Shackelford
A nspectu-	Pesition District Foreman
Title	Representing Tide Water associated Oil Co.
Date 19	Address Box 547, Hobos, New Mexico

N .

NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico

WELL RECORD

Mail to Oil Conservation Commission, Santa Fe, New Mexico, er its proper agent not more than twenty days after completion of well. Follow instructions in the Eules and Regulations of the Commission. Indicate questionable data by following it with (?). SUBMIT IN TRIPLICATE, FORM C-110 WILL NOT BE APPROVED UNTIL FORM C-106 IS PROPERLY FILLED OUT.

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ANNUAL CLASS III WELL REPORT FOR 2011 Key Energy Services, Inc. State S Brine Station Permit BW-028 API No. 30-025-33547 January 20, 2011



ANNUAL CLASS III WELL REPORT FOR 2014

Key Energy Services, Inc. (Key)

State S Brine Station

Permit BW-028

API No. 30-025-33547

May 30, 2015

Submitted by:

BJ Sisson I Key Energy Services

Area Manager PB SWD Management P.O. Box 1294 Brownfield, TX 79316

o: 806.637.3507 l f: 806.637.0054 l c: 806.401.4349

bsisson@keyenergy.com

Prepared By: Wayne Price- Price LLC

505-715-2809

wayneprice77@earthlink.net



ANNUAL CLASS III WELL REPORT FOR 2014

Key Energy Services, Inc. (Key)
State S Brine Station
Permit BW-028
API No. 30-025-33547
May 30, 2015

Submitted by:	
Daniel K. Gibson, P. G.	
Environmental Director	
Key Energy Services, Inc.	
6 Desta Drive Suite 4300	
Midland, Texas 79705	
(432) 571-7536 ph	
(432) 571-7173 fax	

Prepared By: Wayne Price- Price LLC

505-715-2809

wayneprice77@earthlink.net

Bullet Point 2- Summary of Operations:

(Permit Condition 2.J.2 Annual Report: "Summary of Class III well operations for the year including a description and reason for any remedial or major work on the well with a copy of C-103.")

During the 2014 year, there was no major remedial work required at the brine well. General housekeeping was routinely performed and third party (Price LLC) on-site inspections were conducted to ensure permit conditions were being maintained.

Key recently upgraded the State S Brine Station with a Web Based monitoring, Automation System. This system monitors all equipment, fluid levels, and driver access. The ICS system also sends out alarms to personnel via text or Email, as well as, allows users to monitor and control remotely via the WWW.

The OCD held a Brine Well Operators meeting in Hobbs on September 05, 2012 to discuss permit changes. The most notable change by OCD was the removing of the annual "open-to-formation" pressure test requirement. Key Energy Services, Inc. (Key) as most operators, did not run an MIT in 2014.

Yearly cavity size calculations were analyzed to determine cavern size and stability. The calculated cavern radius grew about 2.38 feet this year, from 71.62 ft to 74.0 ft, for an estimated worst-case maximum diameter of 148 ft.

The "Area of Review" reflected no issues and is described in detail below. The cavern subsidence monitors were surveyed and no issues were noted.

Bullet Point 3- Production Volumes:

(Permit condition 2.J.3 "Monthly fluid injection and brine production volume, including the cumulative total carried over each year"

Key has an electronic card system that tracks sales of both fresh and brine water. In addition, Key has Halliburton flow meters on the well to monitor both water injected and brine produced.

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 in <u>Appendix A</u>. The total 2014 brine production volume was 310,392 bbls and the lifetime production volume is 4,820,500 bbls.

Bullet Point 4- "Injection Pressure Data."

(Permit condition 2.J.4 "Injection Pressure Data"

A new submersible centrifugal injection pump was installed in the fresh water storage tank in the 2014 year. The maximum injection pressure is now 450 psig, and has an automatic shut-down switch set at 300 psig, which is approximately105 pounds below the permit maximum of 405 psig.

For this reason, permit condition 3.B.2. **Pressure Limiting Device:** "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, and usually averages about 120 psig. This reading is taken from a pressure gauge mounted on the wellhead inlet.

Brine Well injection pressure gauge readings are observed and recorded on a daily basis.

Bullet Point 5- Chemical Analysis:

(Permit condition 2.J.5 "A copy of the quarterly chemical analysis shall be included with data summary and all QA/QC information.")

Please find attached in <u>Appendix B</u> the 1st, 2nd, and 4th quarter chemical analysis and chain-of-custody of the brine and fresh water injection water samples collected for the annual report. The laboratory used common approved EPA methods to analyze and reporting. This year the 3 rd quarter results were missed due to a new monitoring system being installed. OCD was notified of the event.

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 and meets EPA's Safe Drinking Water Standards.

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 a high density of 1.20 specific gravity. This analysis is very representative of Salado "Salt" formation waters found in the area. The last quarterly report indicated a SG of 1.15, which is probably attributed to the well taken out of service during the fall, but Key will monitor the density to determine if a pattern is devolping.

Bullet Point 6- Mechanical Integrity:

(Permit condition 2.J.6 "Copy of any mechanical integrity test chart, including the type of test, i.e., duration, gauge pressure, etc;")

In 2014, no MIT was required and the next scheduled MIT will occur in 2016, as approved by OCD.

Bullet Point 7- Deviations from Normal Production Methods:

(Permit condition 2.J.7 "Brief explanation describing deviations from normal operations.")

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 2014 year, Key continued the normal flow production procedure and encountered no problems during this time.

Bullet Point 8- Leak and Spill Reports:

(Permit condition 2.J.8 "Results of any leaks and spill reports;")

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 are 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. Small quantities of rainwater, which cannot be pumped are 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.

In 2014 there were no reportable leaks or spills.

Bullet Point 9- Area of Review Update Summary:

(Permit condition 2.J.9 "An Area of Review (AOR) update 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 and aerial AOR plot plan has been constructed (see <u>Appendix C</u>) 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 800 ft and! mile, well checked for casing program status, casing/cementing status, and corrective action required status.

There are a total of 45 wells located within these adjacent units, with one added in 2014, and another two have been proposed but not drilled. Within a! mile radius of the brine well there are 18 wells, and 4 wells are actually within the 800-foot critical radius. One well was actually removed from the list (30-025-41600) as it is not within the critical radius, but was shown last year inappropriately.

This comprehensive list was formulated to provide a baseline for future AOR studies. Since any future brine wells may be limited in size, a critical AOR was established, and all wells within that radius will be 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! 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. 148 ft (r = 74.0 ft) up-dated for 2014, and added a 10:1 safety factor which equates to about 740 ft. As the brine well grows, the critical AOR will be expanded and new wells will be added.

All four wells located in the critical zone were reinvestigated by checking the OCD on-line well records. There was no well activity for any of these wells reported since the last review. They are identified as API# 30-025-09914, 30-025-09913 (P&A), 30-025-06586, and 30-025-39277. (Checked by Price LLC, Apr 2015)

Casing programs were checked on wells, API# 30-025-41600 and 30-025-41485, to ensure casing/cement is across the salt section.

Bullet Point 10- Subsidence/Cavern Volumes/Geometric Measurements

(Permit condition 2.J.10. "A summary with interpretations of MIT's, surface subsidence surveys, cavern volume and geometric measurements with conclusion(s) and recommendation(s);")

The last cavern survey did not provide adequate information pertaining to the size of the cavern. This has been an issue with many 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 0.66 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 considered.

The alternate method mentioned above involves calculating the maximum diameter of the cavern by using a worst-case scenario of an "upright cone".

The cavern volume is calculated using the lifetime brine production volume and multiplying it by 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, which equates that every barrel of brine produced, will create approximately one cubic foot of cavity.

Please find attached in <u>Appendix D</u>, a wellbore sketch, the calculations for the brine well, and the lifetime brine production tally of approximately 4.82 million barrels of brine produced as of December 2014. The maximum diameter was calculated to be approximately 148 feet with a corresponding D/H ratio of 0.109, updated for the 2014 year.

Comparing the current D/H ratio of 0.109 to the 0.66 value mentioned above, it can be concluded that the current brine well status meets and exceeds the recommended safety value by six times.

Permit Condition 2.B. SOLUTION CAVERN MONITORING PROGRAM:

1. Surface Subsidence Monitoring Plan: The Permittee shall submit a Surface Subsidence Monitoring Plan to OCD within 180 days of the effective data of this permit. The Surface Subsidence Monitoring Plan shall specify that the Permittee will install at least three survey monuments and shall include a proposal to monitor the elevation of the monuments at least semiannually.

The Permittee shall survey each benchmark at least semiannually to monitor for possible surface subsidence and shall tie each survey to the nearest USGS benchmark. The Permittee shall employ a licensed professional surveyor to conduct the subsidence monitoring program. The Permittee shall submit the results of all subsidence surveys to OCD within 15 days of the survey. If the monitored surface subsidence at any measuring point reaches 0.10 feet compared to its baseline elevation, then the Permittee shall suspend operation of the Class III well . If the Permittee cannot demonstrate the integrity of the cavern and well to the satisfaction of OCD, then it shall cease all brine production and submit a corrective action plan to mitigate the subsidence.

Key Response: Key has a surveyed subsidence monitoring systems in-place. Due to an internal mis-communication between Key Departments, Key's consultant, and the Surveying Contractor, the 2014 monitoring was not conducted. Key's consultant, Price LLC, contacted Mr. Jim Griswold, OCD Environmental Bureau Chief, and agreed and received approval to run 4 quarters in 2015, instead of the two required in the permit. The first and second quarters of 2015 have been performed and no unusual readings were noticed.

Special Note: Key <u>requested a Minor Modification</u> that allows the results be supplied in the annual report, unless there is an exceedance, as noted in the permit. OCD approved the modification and the approval is included in "Appendix E".

2. Solution Cavern Characterization Program: The Permittee shall submit a Solution Cavern Characterization Plan to characterize the size and shape of the solution cavern using geophysical methods within 180 days of the effective date of this permit. The Permittee shall characterize the size and shape of the solution cavern using a geophysical methods approved by OCD at least once before November 8, 2018. The Permittee shall demonstrate that at least 90% of the calculated volume of salt removed based upon injection and production volumes has been accounted for by the approved geophysical method(s) for such testing to be considered truly representative.

Solution Cavern Characterization Plan: Key proposed to use a combination of calculated results as determined above, and will experiment with various geophysical methods, including actually performing an "Induced Current Method" and report these results in the annual report.

The 'Induced Current' Method has not been successful, primarily to bad connections and low voltage used. Key will continue trying this method and others as approved by OCD. The old fashion cavern calculation continues to be the best economic method available.

Bullet Point #11- Ratio of Injected/Produced Fluids

(Permit condition 2.J.11 "A summary of the ratio of the volume of injected fluids to the volume of produced brine;")

Enclosed in <u>Appendix A</u> is the tables section of the report showing the injection and production data and the comparison chart of injected water to produced water with comments.

The 2014 results show a somewhat normal 16.56% variance, while the total variance during the life of the well is 4.6%.

Special Note: **Key requests a minor modification of the permit requirement 3.K** "The Permittee shall suspend injection if the monthly injection volume is less than 110% or greater than 120% of associated brine production. If such an event occurs, the Permittee shall notify OCD within 24 hours."

Dear Jim Giswold-NMOCD Environmental Bureau Chief: As you know, this topic has been discussed and kicked around for a long time. The current permit requirement does not take into account many factors that can cause the variance to be under or over the requirement of 110%-120%. Every year we report this number in the annual report and while the average monthly injection for the year is normally within range, the actual monthly numbers can and are sometimes under and over. There are many reasons for this as we have discussed, and thus the requirement to suspend operations is not based on any real parameter or trend that may be an immediate threat to the well, groundwater or the environment. The current requirement put operators in a continuous violation and interruption of operations. Notwithstanding, if you have a well that takes water without producing, or starts to pressure up, then you know you may have lost circulation or communicated to a pressure zone, then immediate action should be taken and notification to the agency. Currently the permit reads as follows:

The Permittee shall immediately suspend injection and notify the agency within 72 hours, if the Fresh Water Injection does not cause a normal immediate return of Brine Water to the surface, or if the well flows excessively for an unusual amount of time without fresh water injection after the cavern pressure has been stabilized to it's normal operating pressure, or if permittee has become aware of any out of zone injection or communication. The Permittee shall include in each annual report a summary showing the monthly variance, the average monthly variance for the year and the total accumulative variance over the life of the well. The operator shall certify and explain that any yearly variance that falls outside of the range of 20%, (Difference between the Fresh Water input and Brine Water output) will not cause harm to Fresh Water, Public Health or the Environment.

Wayne Price-Price LLC

Bullet Point #12- Summary of Activities

(Permit condition 2.J.12 "A summary of all major Facility activities or events, which occurred during the year with any conclusions and recommendations;)

See Bullet Point #2 for summary.

5.B. BONDING OR FINANCIAL ASSURANCE: The Permittee shall submit an estimate of the minimum cost to properly close, plug and abandon its Class III well, conduct ground water restoration if applicable, and any post-operational monitoring as may be needed (see 20.6.2.5210B(17) NMAC) within 90 days of permit issuance (See 20.6.2.5210B(17) NMAC). The Permittee's cost estimate shall be based on third person estimates. After review, OCD will require the Permittee to submit a single well plugging bond based on the third person cost estimate.

Appendix "F" contains a third party closure estimate for the Eunice BW-18 brine well.

Bullet Point #13- Annual Certification

(Permit condition 2.J.13 "Annual Certification in accordance with Permit Condition 2.B.3. "2.B.3. Annual Certification: The Permittee shall certify annually that continued salt solution mining will not cause cavern collapse, surface subsidence, property damage, or otherwise threaten public health and the environment, based on geologic and engineering data.")

<u>Operator Response:</u> Based on all current information and actual on-site observance, the operator of record herby certifies that the current operations pose no threat to public health and the environment at the submission of this report. If any substantial event that, has or may cause, this current certification to change, then the operator will notify OCD and take the necessary actions to protect the public and environment.

By signing the cover sheet of Bullet Point 1 of permit condition 2.J.1, the operator herby certifies this condition of the permit.

Bullet Point 14- Groundwater Monitoring:

(Permit condition 2.J.14 "A summary of any new discoveries of ground water contamination with all leaks, spills and releases and corrective actions taken;")

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.

Bullet Point 15- Annual Reporting

(Permit condition 2.J.15 "The Permittee shall file its Annual Report in an electronic format with a hard copy submitted to OCD's Environmental Bureau.")

The operator herby submits a PDF file on flash drive and one hard copy.

Appendix A-

- Production Table
- Injection Comparison Chart

					TABLE 1				
			014 BW-28 Annua	Report Brine				istory Volumes	
		Reported		Annual Brine	Reported	Quarterly	Annual		
Year	Month	Monthly	Quarterly Brine	Production	Monthly	Freshwater	Freshwater	Comments	Operator
real	WOLLLI	Brine	Production (bbls)	(bbls)	Freshwater	Injection	Injection	Continents	Operator
		Production		(DDIS)	Injection	(hhls)	(hhls)		
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		55,55	20,445		0.7000	estimate (1)	
.,,,	February	20,194			20,445			estimate (1)	
	March	20,194	60,582		20,445	61,335		estimate (1)	
	April	48,226	00,302	ł	47,714	01,333		estimate (1)	
	Mav	38,000			36,571				
	June	47,970	134,196		42,264	126,549			
	July	24,711	134,190		24,271	120,349			
	August	31,817			31,559				
	September	38,120	94,648		38,697	94,527			
	October	27,462			25,512				
	November	26,618		1	26,261				
	December	16,137	70,217	359,643	15,850	67,623	350,034		
1998	January	13,301	1	l	13,614				1
	February	47,212]	l	49,552]
	March	42,337	102,850	l	44,964	108,130]
	April	27,072		l	27,519				
	May	18,084]	1	18,161				
	June	26,699	71,855]	26,976	72,656			
	July	16,535		1	15,929				
	August	8,287	1	1	7,488				1
	September	9,994	34,816		9,021	32,438			
	October	13,312	2.1,2.12	i	17,302				
	November	9.822	i		9.873				
	December	8,287	31,421	240,942	9,497	36,672	249.896		
1999	January	4,026	31,421	240,742	4,607	30,072	247,070		
1999	February	6,867			8,138				
	March	5.641	16.534		6,030	18.775			
		7.873	10,534	1		10,775			
	April				7,338				
	May	34,100			32,461	FO 070			
	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		1	31,757				
	August	37,535	1	l	35,492				1
	September	58,042	129,437	l	53,288	120,537			
	October	28,777	,	1	27,216]
	November	22,677	1	1	24,130]
	December	17,670	69,124	455,815	17,369	68,715	440,156		1
2001	January	32,427		100,010	37,083		,		
2001	February	17.493			23.076				
	March	34,050	83,970	1	33,216	93,375			1
	IVIGITUTI	34,030	03,770	ł	33,210	73,373			Change to Yale E.
		22.000			24.044				
	April	32,900	1	l	36,064				Key
	May	66,724		l	52,555				1
	June	37,607	137,231	l	42,347	130,966			
	July	16,399	1	1	15,588				1
	August	10,173	1	l	33,664				1
	September	16,185	42,757	1	16,200	65,452			1
	October	25,184	1	1	24,147				1
	November	10,447		l	8,666				
	December	21,061	56,692	320,650	18,733	51,546	341,339		
2002		11,809			10,135				1
	February	22,700	1	l	23,733				1
	March	4,693	39,202	1	4,369	38,237]
	April	15,160	2.,202	1	16,776	00,207			1
	May	16,321			17,283				

			014 BW-28 Annua	Report Brine				istory Volumes	
	1	Reported	O	Annual Brine	Reported	Quarterly	Annual		-
Year	Month	Monthly Brine	Quarterly Brine Production (bbls)	Production	Monthly Freshwater	Freshwater Injection	Freshwater Injection	Comments	Operator
		Production	Production (bbis)	(bbls)	Injection	(hhis)	(hhls)		
	July	8.301			10.688	musi	(tities)		
	August	7.079			6.842				
	September	18,560	33,940		17,240	34,770			
	October	7,040		ĺ	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 37,680	44 541		5,310 35,548	64.204	-		
	March April	31,782	66,561		31,619	64,384			
	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 December	26,100 38,748	76,862	248,309	12,438 18,218	41,050	185,798		
2004	January	7,980	/0,862	240,309	8,539	41,050	165,798		
2004	February	8,130	1		8,797				
	March	8,220	24,330		8,894	26,230			
	April	29,898			31,931		[
	May	14,233			15,428				
	June	28,716 1.840	72,847		30,410	77,769			
	July August	1,840 29,898	ł		2,060 30,201		}		
	September	20,277	52,015		20,266	52,527			
	October	24,436	52,010		23,784	UZ,UZ7			
	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	70 / 00		24,958	04.550			
	March April	37,896 29,882	79,698	ł	40,435 31,794	84,553			
	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 November	38,571 31,533	1		51,232 27,670				
	December	36,430	106,534	364,926	36,412	115,314	383,227		
2006		18,480		,	19,977	,			
	February	33,250			35,511				
	March	39,492	91,222		38,630	94,118			
	April	40,194			43,605				
	May June	51,009 22,374			54,630 24,832	123,067			
	July	38,208		1	37,613	123,007			
	August	35,627			36,201				
	September	48,784	122,619		47,312	121,126			
	October	50,375			51,232		[
	November	26,084			27,670				
2007	December January	8,224 31,540	84,683	412,101	10,202 33,320	89,104	427,415		
2007	Januar y	31,540			33,320				Change to Key
	February	24.313			25.260				Energy Services
	March	40,514	96,367		38,412	96,992			
	April	34,095	1		35,120		[
	May	19,308			23,130				
	June	9,170		1	11,009	69,259	}		
	July August	30,857 12,394	1		28,468 18,884		}		
	September	25,970	69,221		23,360	70,712			
	October	7,882	07,221	1	7,643	70,712			
	November	2,476			2,630				
	December	3,933	14,291	242,452	4,528	14,801	251,764		
2008		1,706	1		1,982				
	February March	5,845 21,386	28,937		6,203 21,673	29,858			

		TABLE 1 20	D14 BW-28 Annual	Report Brine	TABLE 1 Well Product	ion Volumes a	nd Lifetime H	istory Volumes	
		Reported		Annual Brine	Reported	Quarterly	Annual	y voidinios	
Year	Month	Monthly	Quarterly Brine	Production	Monthly	Freshwater	Freshwater	Comments	Operator
rear	WOTET	Brine	Production (bbls)	(bbls)	Freshwater	Injection	Injection	Comments	Operator
		Production		(0015)	Injection	(hhls)	(hhls)		
	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	04.000		1,306	0/ 00/			
	March	3,249 5,428	24,889		3,420 5,360	26,036			
	April	1,343			1,762				
	May June	1,343	7,401		1,762	8.354			
	July	1,546	7,401		1,232	0,354			
	August	881			1,031				
	September	2,672	5,099		2,930	5,634			
	October	9,898	5,099		8,861	3,034			
	November	3,716	1		3,618				
	December	1,474	15,088	52,477	2.035	14,514	54,538		
2010	January	0,474	10,000	02,477	2,000	14,014	54,550		
20.0	February	1,650	1		1,810				
	March	4,092	5,742		4,789	6,599			
	April	5,092			6,150				
	May	12,256	1		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		
2011	January	44,126			52,975				
	February	24,388			29,666				
	March	19,421	87,935		23,284	105,925			
	April	18,356			22,365				
	May	9,828			11,754				
	June	15,661	43,845		18,902	53,021			
	July	17,503			20,961				
	August	14,401			17,273				
	September	5,430	37,334		16,000 8,284	54,234			
	October	11,359							
	November	18,585 23,228	E2 172	222,286	19,662	EE 7E0	268,932		
2012	December January	23,228	53,172	222,286	27,806 25,897	55,752	200,932		
2012	February	12,230			14,854				
	March	10,124	43,924		12,190	52,941			
	April	18,185	43,924		22,110	32,741			
	May	23,761	1		28,667				
	June	31,207	73,153		37,707	88,484			
	July	20,931	. 2,100		25,225	22,104			
	August	31,025	1		35,837				
	September	29,414	81,370		34,226	95,288			
	October	17,507			21,138				
	November	28,038	1		33,360				
	December	23,015	68 560	267 007	25,205	79,703	316,416		
2013	January	16,097		-	21,395				
	February	17,379	1		20,812				
	March	14,816	48,292		21,978	64,185			
	April	19,374	1		23,799				
	May	23,932	1		25,979				
	June	34,926	78,232		38,500	88,278			
	July	18,446	,,		22,414				
	August	29,958	1		35,877				
	September	16,923	65,327		20,230	78,521			
	October	22,409	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		25,868				
	November	14,139	1		16,972				
	December	24,920	61 468	253 319	29,762	72,602	303,586		
2014	January	31,460			35,865				

					TABLE 1				
		TABLE 1 2	014 BW-28 Annua	I Report Brine	Well Product	ion Volumes a	nd Lifetime H	istory Volumes	
Year	Month	Reported Monthly Brine Production	Quarterly Brine Production (bbls)	Annual Brine Production (bbls)	Reported Monthly Freshwater Injection	Quarterly Freshwater Injection (bbls)	Annual Freshwater Injection (hbls)	Comments	Operato
	March	43,210	113,284	l	50,710	132,019			
	April May June July August September October November December	36,217 45,170 24,524 19,428 15,545 23,652 5,692 10,914	105,911 58,625		44,597 54,007 23,748 20,442 24,683 26,341 7,057 13,136	71,466 37,659	363.496		
	December	13,700			17,400	37,037	303,470		
TOT	AL VOLUMES			4.820.500			5.057.926		1

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

4,820,500

5,057,926

INJECTION AND PRODUCTION COMPARISON CHART

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

WATER IN-WATER OUT BBLS

YEAR 2014

MONTH	WATER IN	WATER OUT	PSI	RATIO OF WATER IN-OUT	
Jan-11	35,865	31,460	120	12.28%	***
Feb-11	45,444	38,614	120	15.03% *	***
Mar-11	50,710	43,210	120	14.79% *	***
Apr-11	44,597	36,217	120	18.79% *	***
May-11	54,007	45,170	120	16.36% *	***
Jun-11	23,748	24,524	120	-3.27% *	***
Jul-11	20,442	19,428	120	4.96% *	***
Aug-11	24,683	15,545	120	37.02%	***
Sep-11	26,341	23,652	120	10.21% *	***
Oct-11	7,057	5,692	120	19.34% *	***
Nov-11	13,136	10,914	120	16.92% *	***
Dec-11	17,466	15,966	120	8.59%	***
TOTAL	363,496	310,392			

YEARLY RATIO % MONTHLY AVERAGE %

BRINE PRODUCTION BBLS 310,392 FRESH WATER INJECTION BBLS 363,496 14.61% 14.43%

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

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.

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

Appendix B - Chemical Analysis

Report Date: April 18, 2014 Work Order: 14040413 Page Number: 1 of 1

Summary Report

(Corrected Report)

Wayne Price Key Energy-Rio Rancho 312 Encanatado Ridge Ct. NE Rio Rancho, NM 87124

Report Date: April 18, 2014

Work Order: 14040413

Project Name: Ist Qtr. Sampling

Project Number: BW-28

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
359741	Fresh	water	2014-04-02	14:30	2014-04-03
359742	Brine	water	2014-04-02	14:30	2014-04-03

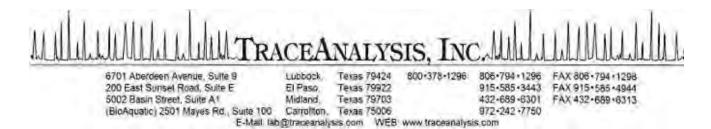
Sample: 359741 - Fresh

Param	Flag	Result	Units	RL
Chloride		71.0	mg/L	2.5
Density		1.00	g/ml	
рH		8.20	s.u.	2
Total Dissolved Solids		421	mg/L	2.5

Sample: 359742 - Brine

Param	Flag	Result	Units	RL
Chloride		219000	mg/L	2.5
Density		1.19	g/ml	
Dissolved Sodium		103000	mg/L	1
pН		7.15	s.u.	2
Total Dissolved Solids	1	298000	mg/L	2.5

 $^{^{1}}$ Reanalyzed out of hold time for confirmation.



Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

(Corrected Report)

Wayne Price Key Energy-Rio Rancho 312 Encanatado Ridge Ct. NE Rio Rancho, NM, 87124

Report Date: April 18, 2014

Work Order: 14040413

Project Name: lst Qtr. Sampling

Project Number: BW-28

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

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
359741	Fresh	water	2014-04-02	14:30	2014-04-03
359742	Brine	water	2014-04-02	14:30	2014-04-03

Report Corrections (Work Order 14040413)

 \bullet 4/18/14: Reran TDS on sample 359742.

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 17 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Michael abel

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

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Case Narrative

Samples for project lst Qtr. Sampling were received by TraceAnalysis, Inc. on 2014-04-03 and assigned to work order 14040413. Samples for work order 14040413 were received intact at a temperature of 20.0 C.

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

		Prep	Prep	QC	Analysis
Test	Method	Batch	Date	Batch	Date
Chloride (IC)	E 300.0	93996	2014-04-04 at 11:03	111184	2014-04-04 at 11:03
Density	ASTM D854-92	93856	2014-04-09 at $13:45$	111019	2014-04-09 at 13:55
Na, Dissolved	S 6010 C	93827	2014-04-08 at 14:21	111024	2014-04-09 at 15:10
pН	SM 4500-H+	93747	2014-04-04 at 14:46	110872	2014-04-04 at 14:46
TDS	SM 2540C	94004	2014-04-08 at 16:00	111194	2014-04-08 at 16:00
TDS	SM 2540C	94082	2014-04-16 at 16:00	111286	2014-04-17 at $16:00$

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 14040413 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.

Report Date: April 18, 2014 Work Order: 14040413 Page Number: 5 of 17

BW-28 lst Qtr. Sampling

Analytical Report

Sample: 359741 - Fresh

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 111184 Date Analyzed: 2014-04-04 Analyzed By: RLPrep Batch: 93996 Sample Preparation: 2014-04-04 Prepared By: RL

Sample: 359741 - Fresh

Laboratory: Lubbock

Analysis: Analytical Method: Prep Method: Density ASTM D854-92 N/AQC Batch: 111019 Date Analyzed: 2014-04-09 Analyzed By: CFPrep Batch: 93856 Sample Preparation: 2014-04-09 Prepared By: CF

Sample: 359741 - Fresh

Laboratory: Lubbock

Analytical Method: Prep Method: N/A Analysis: На SM 4500-H+QC Batch: 110872 Date Analyzed: Analyzed By: 2014-04-04 ATPrep Batch: 93747 Sample Preparation: Prepared By: 2014-04-04 AT

Sample: 359741 - Fresh

Laboratory: Lubbock

Analysis: TDSAnalytical Method: $\rm SM~2540C$ Prep Method: N/AQC Batch: 111194 Date Analyzed: 2014-04-08 Analyzed By: RLPrep Batch: 94004 Sample Preparation: 2014 - 04 - 08Prepared By: RL

Report Date: April 18, 2014 Work Order: 14040413 Page Number: 6 of 17

BW-28 lst Qtr. Sampling

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Total Dissolved Solids		1	421	$\mathrm{mg/L}$	10	2.50

Sample: 359742 - Brine

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 111184 Date Analyzed: 2014-04-04 Analyzed By: RLPrep Batch: 93996 Sample Preparation: 2014-04-04 Prepared By: RL

Sample: 359742 - Brine

Laboratory: Lubbock

Analytical Method: ASTM D854-92 Prep Method: N/A Analysis: Density QC Batch: 111019 2014-04-09 CF Date Analyzed: Analyzed By: Prep Batch: 93856 Sample Preparation: 2014-04-09 Prepared By: CF

Sample: 359742 - Brine

Laboratory: Lubbock

Analytical Method: S 6010CPrep Method: S 3005A Analysis: Na, Dissolved QC Batch: 111024 Date Analyzed: 2014-04-09 Analyzed By: RR93827 2014-04-08 PM Prep Batch: Sample Preparation: Prepared By:

Report Date: April 18, 2014 Work Order: 14040413 Page Number: 7 of 17

BW-28 lst Qtr. Sampling

Sample: 359742 - Brine

Laboratory: Lubbock

Analysis: pH Analytical Method: SM 4500-H+ Prep Method: N/A QC Batch: 110872 Date Analyzed: 2014-04 Analyzed By: AT Prep Batch: 93747 Sample Preparation: 2014-04 Prepared By: AT

RL

Parameter	Flag	Cert	Result	Units	Dilution	RL
На		1	7.15	S.11.	1	2.00

Sample: 359742 - Brine

Laboratory: Lubbock

Analysis: TDS Analytical Method: $\rm SM~2540C$ Prep Method: N/A QC Batch: 111286 Date Analyzed: Analyzed By: RL 2014-04-17Prep Batch: 94082 Sample Preparation: 2014-04-16 Prepared By: RL

RL

Parameter	Flag	Cert	Result	Units	Dilution	RL
Total Dissolved Solids ¹		1	298000	$\mathrm{mg/L}$	2000	2.50

Report Date: April 18, 2014 Work Order: 14040413 Page Number: 8 of 17

BW-28 lst Qtr. Sampling

Method Blanks

Method Blank (1) QC Batch: 111019

 QC Batch:
 111019
 Date Analyzed:
 2014-04-09
 Analyzed By:
 CF

 Prep Batch:
 93856
 QC Preparation:
 2014-04-09
 Prepared By:
 CF

Method Blank (1) QC Batch: 111024

QC Batch: 111024 Date Analyzed: 2014-04-09 Analyzed By: RR
Prep Batch: 93827 QC Preparation: 2014-04-08 Prepared By: PM

Method Blank (1) QC Batch: 111184

QC Batch: 111184 Date Analyzed: 2014-04-04 Analyzed By: RL Prep Batch: 93996 QC Preparation: 2014-04-04 Prepared By: RL

Method Blank (1) QC Batch: 111194

Report Date: April 18, 2014

BW-28

Work Order: 14040413

lst Qtr. Sampling

			MDL		
Parameter	Flag	Cert	Result	Units	RL
Total Dissolved Solids		1	<25.0	$\mathrm{mg/L}$	2.5

Method Blank (1) QC Batch: 111286

QC Batch: 111286 Prep Batch: 94082

Date Analyzed: 2014 - 04 - 172014 - 04 - 16QC Preparation:

Analyzed By: RL Prepared By: RL

Page Number: 9 of 17

MDLCert Parameter Flag Result Units RLTotal Dissolved Solids <25.0 mg/L1 2.5

Duplicates (1) Duplicated Sample: 359764

QC Batch: 110872 Prep Batch: 93747

Date Analyzed: 2014-04-04 QC Preparation: 2014-04-04 Analyzed By: AT Prepared By:

Duplicate Sample RPD Result Result Dilution RPD Limit Param Units 7.45 7.44 20 рН s.u. 1 0

Duplicates (1) Duplicated Sample: 359742

QC Batch: 111019 Date Analyzed: Prep Batch: 93856 QC Preparation: 2014-04-09 Analyzed By: CF Prepared By: $_{\mathrm{CF}}$

Duplicate Sample RPDParam Result Result Units Dilution RPD ${\bf Limit}$ Density 1.19 1.19 g/ml 0 20 1

2014-04-09

Duplicates (1) Duplicated Sample: 359759

QC Batch: 111194 Date Analyzed: 2014-04-08 Analyzed By: RL Prep Batch: 94004 QC Preparation: 2014-04-08 Prepared By: RL

Report Date: April 18, 2014 Work Order: 14040413 Page Number: 10 of 17

BW-28 lst Qtr. Sampling

		Duplicate	Sample				RPD
Param		Result	Result	Units	Dilution	RPD	Limit
Total Dissolved Solids	1	501	514	mg/L	10	3	10

Duplicates (1) Duplicated Sample: 359742

QC Batch: 111286 Date Analyzed: 2014-04-17 Analyzed By: RL Prep Batch: 94082 QC Preparation: 2014-04-16 Prepared By: RL

Duplicate Sample RPD Result Result Dilution RPD Param Units Limit Total Dissolved Solids 299000 298000 mg/L2000 0 10 1

Report Date: April 18, 2014 Work Order: 14040413 Page Number: 11 of 17

BW-28 lst Qtr. Sampling

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 111024 Date Analyzed: 2014-04-09 Analyzed By: RR
Prep Batch: 93827 QC Preparation: 2014-04-08 Prepared By: PM

			LCS			Spike	Matrix		Rec.
Param	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Dissolved Sodium		1	53.1	mg/L	1	52.5	< 0.172	101	85 - 115

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

			LCSD			Spike	Matrix		Rec.		RPD
Param	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Dissolved Sodium		1	53.2	mg/L	1	52.5	< 0.172	101	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: 111184 Date Analyzed: 2014-04-04 Analyzed By: RL Prep Batch: 93996 QC Preparation: 2014-04-04 Prepared By: RL

			LCS			Spike	Matrix		Rec.
Param	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		1	25.1	$_{ m mg/L}$	1	25.0	1.24	95	90 - 110

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

			LCSD			Spike	Matrix		Rec.		RPD
Param	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		1	25.1	mg/L	1	25.0	1.24	95	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: 111194 Date Analyzed: 2014-04-08 Analyzed By: RL Prep Batch: 94004 QC Preparation: 2014-04-08 Prepared By: RL

Report Date: April 18, 2014

BW-28 lst Qtr. Sampling

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Total Dissolved Solids		1	1010	mg/L	10	1000	<25.0	101	90 - 110

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

			LCSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Dissolved Solids		1	1010	mg/L	10	1000	<25.0	101	90 - 110	0	10

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

Laboratory Control Spike (LCS-1)

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Total Dissolved Solids		1	1010	mg/L	10	1000	<25.0	101	90 - 110

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

			LCSD			$_{\rm Spike}$	Matrix		Rec.		RPD
Param	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Dissolved Solids		1	1010	mg/L	10	1000	<25.0	101	90 - 110	0	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: 359723

QC Batch: 111024 Date Analyzed: 2014-04-09 Analyzed By: RR
Prep Batch: 93827 QC Preparation: 2014-04-08 Prepared By: PM

			MS			Spike	Matrix		Rec.
Param	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Dissolved Sodium		1	3200	mg/L	1	525	2760	84	75 - 125

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

			MSD			Spike	Matrix		Rec.		RPD
Param	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Dissolved Sodium		1	3220	mg/L	1	525	2760	88	75 - 125	1	20

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

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BW-28 lst Qtr. Sampling

Matrix Spike (MS-1) Spiked Sample: 359783

QC Batch: 111184 Date Analyzed: 2014-04-04 Analyzed By: RL Prep Batch: 93996 QC Preparation: 2014-04-04 Prepared By: RL

Spike MSMatrix Rec. F \mathbf{C} Result Param Result Units Dil. Amount Rec. Limit 80 - 120 Chloride 1600 1250 340 mg/L50 101

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

			MSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		1	1600	mg/L	50	1250	340	101	80 - 120	0	20

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

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BW-28 lst Qtr. Sampling

Calibration Standards

Standard (ICV-1)

QC Batch: 110872 Date Analyzed: 2014-04-04 Analyzed By: AT

				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
pH		1	s.u.	7.00	7.01	100	98 - 102	2014-04-04

Standard (CCV-1)

QC Batch: 110872 Date Analyzed: 2014-04-04 Analyzed By: AT

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Ha		1	S.11.	7.00	7.01	100	98 - 102	2014-04-04

Standard (ICV-1)

QC Batch: 111024 Date Analyzed: 2014-04-09 Analyzed By: RR

				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Dissolved Sodium		1	mg/L	51.0	51.3	100	90 - 110	2014-04-09

Standard (CCV-1)

QC Batch: 111024 Date Analyzed: 2014-04-09 Analyzed By: RR

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Dissolved Sodium		1	mg/L	51.0	48.5	95	90 - 110	2014-04-09

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BW-28 lst Qtr. Sampling

Standard (CCV-1)

QC Batch: 111184 Date Analyzed: 2014-04-04 Analyzed By: RL

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		1	mg/L	25.0	25.0	100	90 - 110	2014-04-04

Standard (CCV-2)

QC Batch: 111184 Date Analyzed: 2014-04-04 Analyzed By: RL

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		1	$_{ m mg/L}$	25.0	25.6	102	90 - 110	2014-04-04

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BW-28 lst Qtr. Sampling

Appendix

Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

Laboratory Certifications

	Certifying	Certification	Laboratory
\mathbf{C}	Authority	Number	Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704219-14-10	Lubbock

Standard Flags

- F Description
- B Analyte detected in the corresponding method blank above the method detection limit
- H Analyzed out of hold time
- J Estimated concentration
- Jb The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
- Je Estimated concentration exceeding calibration range.
- MI1 Split peak or shoulder peak
- MI2 Instrument software did not integrate
- MI3 Instrument software misidentified the peak
- MI4 Instrument software integrated improperly
- MI5 Baseline correction
- Qc Calibration check outside of laboratory limits.
- Qr RPD outside of laboratory limits
- Qs Spike recovery outside of laboratory limits.
- Qsr Surrogate recovery outside of laboratory limits.
 - U The analyte is not detected above the SDL

Result Comments

Report Date: April 18, 2014 Work Order: 14040413 Page Number: 17 of 17 BW-28 lst Qtr. Sampling

 $1 \,\,$ Reanalyzed out of hold time for confirmation.

Attachments

The scanned attachments will follow this page.

Please note, each attachment may consist of more than one page.

PIOH Turn Around Time if different from standard BioAquatic Testing 2501 Mayes Rd., Ste 100 **Carrollton, Texas 75006** Tel (972) 242-7750 MUIOS PAISITA SOL YO SOL YOU ADIZOTHO No. Na, Ca, Mg, K, TDS, EC or Specify Method NO3-N, NO2-N, PO4-P, Alkalinity CI' E' 204' ANALYSIS REQUEST Moisture Content Dry Weight Basis Required BOD, TSS, pH Check If Special Reporting TRRP Report Required Pesticides 8081 / 608 200 East Sunset Rd., Suite E El Paso, Texas 79922 Tel (915) 585-3443 Fax (915) 585-3443 1 (888) 588-3443 PCB's 8082 / 608 GC/MS Semi. Vol. 8270 / 625 REMARKS: GC/MS A91. 8260 / 624 **BCI** TCLP Pesticides Circle TCLP Semi Volatiles TCLP Volatiles LAB USE TCLP Metals Ag As Ba Cd Cr Pb Se Hg ONIC Total Metals Ag As Ba Cd Cr Pb Se Hg 6010/200.7 5002 Basin Street, Suite A1 Midland, Texas 79703 Tel (432) 689-6301 Fax (432) 689-6313 PAH 8270 / 625 TPH 8015 GRO / DRO / TVHC INST-2070 TPH 418.1 / TX1005 / TX1005 Ext(C35) Carrier # 8021 / 602 / 8260 / 624 COC#2 OBS O 8021 / 602 / 8260 / 624 MTBE OBS INST COR INST COR SAMPLING TIME Time: 6701 Aberdeen Avenue, Suite 9 **Lubbock, Texas 79424**Tel (806) 794-1296
Fax (806) 794-1298
1 (800) 378-1296 20HYNES PRICE 178 EARTHL **BATE** Project Name: 1/12 SAMPL 505-7/5-PRESERVATIVE NONE METHOD ICE Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C. O. Sampler Signature: HOBN Company: *OSZH HNO3 Phone #: HCI Fax #: Received by: STADGE MATRIX Received by: TraceAnalysis, Inc. AIA NOS **MATER** email: lab@traceanalysis.com Volume / Amount Time: Time: # CONTAINERS ENERGY Date: Date: FIELD CODE Project Location (including state): Company: Company: Company (Street, City, Zip) PRICE 1 (If different from above) LAB Order ID # Relinquished by Relinquished by: Relinquished by: Company Name: Contact Person: Project #: CAB USE Address: 五分 LAB#

ORIGINAL COPY

Report Date: July 24, 2014 Work Order: 14071639 Page Number: 1 of 1

Summary Report

Wayne Price Key Energy Services-Farmington Rocky Mountain Rigs 26 Rd. 3720

P.O. Box 900

Farmington, NM 87401

Report Date: July 24, 2014

Work Order: 14071639

Project Location: Eunice, NM Project Name: 1/4 Sampling

BW-28 Project Number:

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
368528	Fresh	water	2014-07-10	15:16	2014-07-11
368529	Brine	water	2014-07-10	15:04	2014-07-11

Sample: 368528 - Fresh

Param	Flag	Result	Units	RL
Chloride		44.5	mg/L	2.5
Density		0.999	m g/ml	
рН		7.81	s.u.	2
Total Dissolved Solids		432	m mg/L	2.5

Sample: 368529 - Brine

Param	Flag	Result	Units	RL
Chloride		181000	m mg/L	2.5
Density		1.20	m g/ml	
Dissolved Sodium		105000	m mg/L	1
pH		$\boldsymbol{6.85}$	s.u.	2
Total Dissolved Solids		316000	$\mathrm{mg/L}$	2.5



Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Wayne Price Key Energy Services-Farmington Rocky Mountain Rigs 26 Rd. 3720 P.O. Box 900 Farmington, NM, 87401

Project Location: Eunice, NM Project Name: 1/4 Sampling Project Number: BW-28

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

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
368528	Fresh	water	2014-07-10	15:16	2014-07-11
368529	Brine	water	2014-07-10	15:04	2014-07-11

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 16 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director James Taylor, Assistant Director

Report Date: July 24, 2014

14071639

Work Order:

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Case Narrative

Samples for project 1/4 Sampling were received by TraceAnalysis, Inc. on 2014-07-11 and assigned to work order 14071639. Samples for work order 14071639 were received intact at a temperature of 3.5 C.

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

		Prep	Prep	QC	Analysis
Test	Method	Batch	Date	Batch	Date
Chloride (IC)	E 300.0	96346	2014-07-23 at 14:00	113911	2014-07-23 at 15:31
Density	ASTM D854-92	96173	2014-07-17 at 10:35	113705	2014-07-17 at 10:45
Na, Dissolved	S 6010 C	96254	2014-07-21 at 12:38	113856	2014-07-22 at $16:27$
pН	SM 4500-H+	96195	2014-07-17 at 14:34	113731	2014-07-17 at 14:34
TDS	SM 2540C	96314	2014-07-17 at 17:00	113871	2014-07-17 at $17:00$

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 14071639 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.

Report Date: July 24, 2014 Work Order: 14071639 Page Number: 4 of 16 BW-28 1/4 Sampling Eunice, NM

Analytical Report

Sample: 368528 - Fresh

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 113911 Date Analyzed: 2014-07-23 Analyzed By: RLPrep Batch: 96346 Sample Preparation: Prepared By: RL

Sample: 368528 - Fresh

Laboratory: Lubbock Analytical Method: Prep Method: Analysis: Density ASTM D854-92 QC Batch: 1137052014-07-17 Analyzed By: Date Analyzed: Prep Batch: 96173 Sample Preparation: 2014-07-17 Prepared By:

N/A

CF

CF

Sample: 368528 - Fresh

Laboratory: Lubbock

Analytical Method: Prep Method: N/A Analysis: На SM 4500-H+QC Batch: 113731 Analyzed By: Date Analyzed: 2014-07-17 ATPrep Batch: 96195 Sample Preparation: Prepared By: 2014-07-17 AT

Sample: 368528 - Fresh

Laboratory: Lubbock

Analysis: TDSAnalytical Method: $\rm SM~2540C$ Prep Method: N/AQC Batch: 113871 Date Analyzed: 2014-07-17 Analyzed By: RLPrep Batch: 96314 Sample Preparation: Prepared By: RL

Report Date: July 24, 2014 Work Order: 14071639 Page Number: 5 of 16 BW-28 1/4 Sampling Eunice, NM

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Total Dissolved Solids		1,2,3,4,5	432	$\mathrm{mg/L}$	10	2.50

Sample: 368529 - Brine

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 113911 Date Analyzed: 2014-07-23 Analyzed By: RLPrep Batch: 96346 Sample Preparation: Prepared By: RL

Sample: 368529 - Brine

Laboratory: Lubbock

Analytical Method: ASTM D854-92 Prep Method: N/A Analysis: Density QC Batch: 1137052014-07-17 CF Date Analyzed: Analyzed By: Prep Batch: 96173 Sample Preparation: 2014-07-17 Prepared By: CF

Sample: 368529 - Brine

Laboratory: Lubbock

Analytical Method: S 6010CPrep Method: S 3005A Analysis: Na, Dissolved QC Batch: 1138562014-07-22 Date Analyzed: Analyzed By: RR96254 2014-07-21 RRPrep Batch: Sample Preparation: Prepared By:

Report Date: July 24, 2014 Work Order: 14071639 Page Number: 6 of 16 BW-28 1/4 Sampling Eunice, NM

Sample: 368529 - Brine

Laboratory: Lubbock

Analysis: рΗ Analytical Method: SM 4500-H+ Prep Method: N/A QC Batch: 113731 Date Analyzed: 2014-07-17 Analyzed By: ATPrep Batch: 96195 Sample Preparation: 2014-07-17 Prepared By: AT

Sample: 368529 - Brine

Laboratory: Lubbock

Analysis: TDS Analytical Method: SM 2540C Prep Method: N/A QC Batch: 113871 Date Analyzed: 2014-07-17 Analyzed By: RL Prep Batch: 96314 Sample Preparation: Prepared By: RL

Report Date: July 24, 2014 Work Order: 14071639 Page Number: 7 of 16 BW-28 1/4 Sampling Eunice, NM

Method Blanks

Method Blank (1) QC Batch: 113705

QC Batch: 113705 Date Analyzed: 2014-07-17 Analyzed By: CF Prep Batch: 96173 QC Preparation: 2014-07-17 Prepared By: CF

Method Blank (1) QC Batch: 113856

QC Batch: 113856 Date Analyzed: 2014-07-22 Analyzed By: RR
Prep Batch: 96254 QC Preparation: 2014-07-21 Prepared By: PM

Method Blank (1) QC Batch: 113871

QC Batch: 113871 Date Analyzed: 2014-07-17 Analyzed By: RL Prep Batch: 96314 QC Preparation: 2014-07-17 Prepared By: RL

Method Blank (1) QC Batch: 113911

Report Date: July 24, 2014 Work Order: 14071639 Page Number: 8 of 16 BW-28 1/4 Sampling Eunice, NM

			MDL		
Parameter	Flag	Cert	Result	Units	RL
Chloride		1,2,3,4,5	1.09	$\mathrm{mg/L}$	2.5

Report Date: July 24, 2014 Work Order: 14071639 Page Number: 9 of 16 BW-28 1/4 Sampling Eunice, NM

Duplicates

Duplicates (1) Duplicated Sample: 368450

QC Batch: 113705 Date Analyzed: 2014-07-17 Analyzed By: CF Prep Batch: 96173 QC Preparation: 2014-07-17 Prepared By: CF

	Duplicate	Sample				RPD
Param	Result	Result	Units	Dilution	RPD	Limit
Density	0.997	0.996	g/ml	1	0	20

Duplicates (1) Duplicated Sample: 365547

QC Batch: 113731 Date Analyzed: 2014-07-17 Analyzed By: AT Prep Batch: 96195 QC Preparation: 2014-07-17 Prepared By: AT

		Duplicate	Sample				RPD
Param		Result	Result	Units	Dilution	RPD	Limit
Ha	1.2.4.5	6.80	7.16	S.11.	1		20

Duplicates (1) Duplicated Sample: 368530

		Duplicate	Sample				RPD
Param		Result	Result	Units	Dilution	RPD	Limit
Total Dissolved Solids	1,2,3,4,5	2220	2200	mg/L	50	1	10

Report Date: July 24, 2014 Work Order: 14071639 Page Number: 10 of 16 BW-28 1/4 Sampling Eunice, NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 113856 Date Analyzed: 2014-07-22 Analyzed By: RR
Prep Batch: 96254 QC Preparation: 2014-07-21 Prepared By: PM

			LCS			Spike	Matrix		Rec.
Param	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Dissolved Sodium		2,3,4,5	51.5	mg/L	1	52.5	< 0.0184	98	85 - 115

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

			LCSD			Spike	Matrix		Rec.		RPD
Param	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Dissolved Sodium		2,3,4,5	50.6	mg/L	1	52.5	< 0.0184	96	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: 113871 Date Analyzed: 2014-07-17 Analyzed By: RL Prep Batch: 96314 QC Preparation: 2014-07-17 Prepared By: RL

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Total Dissolved Solids		1,2,3,4,5	1020	mg/L	10	1000	<25.0	102	90 - 110

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

			LCSD			Spike	Matrix		Rec.		RPD
Param	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Dissolved Solids		1,2,3,4,5	1000	mg/L	10	1000	< 25.0	100	90 - 110	2	10

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: 113911 Date Analyzed: 2014-07-23 Analyzed By: RL
Prep Batch: 96346 QC Preparation: 2014-07-23 Prepared By: RL

Report Date: July 24, 2014 Work Order: 14071639 Page Number: 11 of 16 BW-28 1/4 Sampling Eunice, NM

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		1,2,3,4,5	24.3	mg/L	1	25.0	1.09	93	90 - 110

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

			LCSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		1,2,3,4,5	24.4	mg/L	1	25.0	1.09	93	90 - 110	0	20

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

Report Date: July 24, 2014 Work Order: 14071639 Page Number: 12 of 16 BW-28 1/4 Sampling Eunice, NM

Matrix Spikes

Matrix Spike (MS-1) Spiked Sample: 366283

QC Batch: 113856 Date Analyzed: 2014-07-22 Analyzed By: RR
Prep Batch: 96254 QC Preparation: 2014-07-21 Prepared By: PM

			MS			Spike	Matrix		Rec.
Param	F	$^{\mathrm{C}}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Dissolved Sodium		2,3,4,5	888	mg/L	1	525	467	80	75 - 125

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

			MSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	$^{\mathrm{C}}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Dissolved Sodium		2,3,4,5	985	mg/L	1	525	467	99	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: 368528

QC Batch: 113911 Date Analyzed: 2014-07-23 Analyzed By: RL Prep Batch: 96346 QC Preparation: 2014-07-23 Prepared By: RL

			MS			$_{ m Spike}$	Matrix		Rec.
Param	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		1,2,3,4,5	184	mg/L	5	125	44.5	112	80 - 120

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

			MSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		1,2,3,4,5	177	mg/L	5	125	44.5	106	80 - 120	4	20

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

Report Date: July 24, 2014 Work Order: 14071639 Page Number: 13 of 16 BW-28 1/4 Sampling Eunice, NM

Calibration Standards

Standard (ICV-1)

QC Batch: 113731 Date Analyzed: 2014-07-17 Analyzed By: AT

				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
рН		1,2,4,5	s.u.	7.00	7.01	100	98 - 102	2014-07-17

Standard (CCV-1)

QC Batch: 113731 Date Analyzed: 2014-07-17 Analyzed By: AT

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Ha		1.2.4.5	S.11.	7.00	7.01	100	98 - 102	2014-07-17

Standard (ICV-1)

QC Batch: 113856 Date Analyzed: 2014-07-22 Analyzed By: RR

				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Dissolved Sodium		2,3,4,5	mg/L	51.0	51.5	101	90 - 110	2014-07-22

Standard (CCV-1)

QC Batch: 113856 Date Analyzed: 2014-07-22 Analyzed By: RR

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Dissolved Sodium		2,3,4,5	mg/L	51.0	52.8	104	90 - 110	2014-07-22

Report Date: July 24, 2014 Work Order: 14071639 Page Number: 14 of 16 BW-28 1/4 Sampling Eunice, NM

Standard (CCV-1)

QC Batch: 113911 Date Analyzed: 2014-07-23 Analyzed By: RL

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		1,2,3,4,5	mg/L	25.0	24.3	97	90 - 110	2014-07-23

Standard (CCV-2)

QC Batch: 113911 Date Analyzed: 2014-07-23 Analyzed By: RL

				$\rm CCVs$	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		1,2,3,4,5	mg/L	25.0	24.3	97	90 - 110	2014-07-23

Report Date: July 24, 2014 Work Order: 14071639 Page Number: 15 of 16 BW-28 1/4 Sampling Eunice, NM

Appendix

Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

Laboratory Certifications

	Certifying	Certification	Laboratory
\mathbf{C}	Authority	Number	Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	PJLA	L14-93	Lubbock
2	Kansas	Kansas E-10317	Lubbock
3	LELAP	LELAP-02003	Lubbock
4	NELAP	T104704219-14-10	Lubbock
5		2013-083	Lubbock

Standard Flags

- F Description
- B Analyte detected in the corresponding method blank above the method detection limit
- H Analyzed out of hold time
- J Estimated concentration
- Jb The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
- Je Estimated concentration exceeding calibration range.
- MI1 Split peak or shoulder peak
- MI2 Instrument software did not integrate
- MI3 Instrument software misidentified the peak
- MI4 Instrument software integrated improperly
- MI5 Baseline correction
- Qc Calibration check outside of laboratory limits.
- Qr RPD outside of laboratory limits
- Qs Spike recovery outside of laboratory limits.
- Qsr Surrogate recovery outside of laboratory limits.

Report Date: July 24, 2014 Work Order: 14071639 Page Number: 16 of 16 BW-28 1/4 Sampling Eunice, NM

F Description

U The analyte is not detected above the SDL

Attachments

The scanned attachments will follow this page.

Please note, each attachment may consist of more than one page.

LAB Order ID #	14071639
LAB Order ID #	17011601

Page 1 of 1

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LAB USE ONLY	FIELD CODE	# CONTAINERS	Volume / Amount	WATER	SOIL	AIR	SLUDGE	HCI	HNO ₃	H ₂ SO₂	NaOH	TION I	NONE	DATE	TIME	MTBE 8021	BTEX 8021 / 602 / 8260 / 624	TPH 418.1 / TX1005 / TX1005 Ext(C35)	TPH 8015 GRO / DRO / TVHC	Total Motale An	TCLP Metals Ag As Ba Cd Cr Pb Se Hg buildigger.	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260 / 624	GC/MS Semi. Vol.	PCB's 8082 / 608	Pesticides 8081 / 608	BOD, TSS, pH	Moisture Content	Na, Ca, Mg, K, TDS,	Chlewilles	PH TO	Dewirty	Turn Around Time if different from standard	direction of the second	Hold
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Report Date: February 18, 2015 Work Order: 15012704 Page Number: 1 of 1

Summary Report

Lester Waynce Price Jr.

Price LLC

312 Encantado Ridge Ct. NE Rio Rancho, NM 87124

Report Date: February 18, 2015

Work Order: 15012704

Project Location: Eunice, NM Project Name: Key Eunice Brine

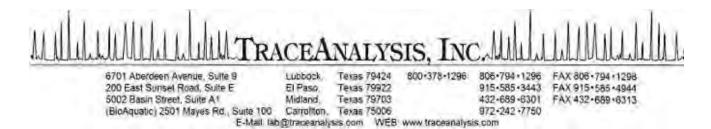
			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
385264	Fresh	water	2015-01-20	16:13	2015-01-27
385265	Brine	water	2015-01-20	16:17	2015-01-27

Sample: 385264 - Fresh

Param	Flag	Result	Units	RL
Chloride		44.1	m mg/L	2.5
Dissolved Sodium	Qs	310	$\mathrm{mg/L}$	1
рН		7.64	s.u.	2
Specific Gravity		0.9906	$\mathrm{g/ml}$	
Total Dissolved Solids		364	$\mathrm{mg/L}$	2.5

Sample: 385265 - Brine

Param	Flag	Result	Units	RL
Chloride		169000	m mg/L	2.5
Dissolved Sodium	Qs	116000	$\mathrm{mg/L}$	1
pН		7.11	s.u.	2
Specific Gravity		1.159	g/ml	
Total Dissolved Solids		238000	$\mathrm{mg/L}$	2.5



Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Lester Waynce Price Jr. Price LLC 312 Encantado Ridge Ct. NE Rio Rancho, NM, 87124

Project Location: Eunice, NM
Project Name: Key Eunice Brine
Project Number: Key Eunice Brine

Work Order: 15012704

Report Date: February 18, 2015

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

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
385264	Fresh	water	2015-01-20	16:13	2015-01-27
385265	Brine	water	2015-01-20	16:17	2015-01-27

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 17 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director James Taylor, Assistant Director Brian Pellam, Operations Manager

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Case Narrative

Samples for project Key Eunice Brine were received by TraceAnalysis, Inc. on 2015-01-27 and assigned to work order 15012704. Samples for work order 15012704 were received intact at a temperature of 0.2 C.

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

		Prep	Prep	QC	Analysis
Test	Method	Batch	Date	Batch	Date
Chloride (IC)	E 300.0	101000	2015-02-17 at 15:00	119429	2015-02-17 at 16:06
Na, Dissolved	S 6010C	100546	2015-01-27 at $17:40$	119127	2015-02-06 at 09:23
pН	SM 4500-H+	100544	2015-01-27 at $04:00$	118893	2015-01-27 at 16:44
Specific Gravity	ASTM D1429-95	100533	2015-01-27 at 13:00	118885	2015-01-27 at 13:10
TDS	SM 2540C	100618	2015-01-28 at 12:10	118979	2015-01-28 at 12:10
TDS	SM 2540C	100787	2015-02-02 at $09:00$	119181	2015-02-02 at $17:00$

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 15012704 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.

Report Date: February 18, 2015 Work Order: 15012704 Page Number: 4 of 17 Key Eunice Brine Eunice, NM

Analytical Report

Sample: 385264 - Fresh

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 119429 Date Analyzed: 2015-02-17 Analyzed By: RLPrep Batch: 101000 Sample Preparation: Prepared By: RL

Sample: 385264 - Fresh

Laboratory: Lubbock

Analytical Method: Prep Method: Analysis: Na, Dissolved S_{6010C} S 3005A 119127QC Batch: Date Analyzed: Analyzed By: 2015-02-06 RRPrep Batch: 100546 Sample Preparation: 2015-01-27 Prepared By:

Sample: 385264 - Fresh

Laboratory: Lubbock

Analytical Method: Prep Method: N/A Analysis: рН SM 4500-H+QC Batch: 118893 Analyzed By: Date Analyzed: 2015-01-27 ATPrep Batch: 100544 Sample Preparation: Prepared By: 2015-01-27 AT

Sample: 385264 - Fresh

Laboratory: Lubbock

Analysis: Specific Gravity Analytical Method: ASTM D1429-95 Prep Method: N/AQC Batch: 118885 Date Analyzed: 2015-01-27 Analyzed By: CF Prep Batch: 100533 Sample Preparation: 2015-01-27 Prepared By: CF

Report Date: February 18, 2015

Work Order: 15012704 Page Number: 5 of 17 Key Eunice Brine Key Eunice Brine Eunice, NM

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Specific Gravity			0.9906	g/ml	1	0.000
•						

Sample: 385264 - Fresh

Laboratory: Lubbock

Analysis: TDS Analytical Method: $\rm SM~2540C$ Prep Method: N/AQC Batch: 119181 Date Analyzed: 2015-02-02 Analyzed By: RLPrep Batch: 100787 Sample Preparation: Prepared By: RL

RLResult Units Dilution Parameter Flag Cert RLTotal Dissolved Solids 364 mg/L10 2.50 1,2,3,4,5

Sample: 385265 - Brine

Laboratory: Lubbock

Chloride (IC) Analytical Method: E 300.0Prep Method: N/A Analysis: QC Batch: 119429 2015-02-17 Date Analyzed: Analyzed By: RLPrep Batch: 101000 Sample Preparation: Prepared By: RL

 RL Flag Parameter Cert Result Units Dilution RLChloride 169000 mg/L5000 2.50 1,2,3,4,5

Sample: 385265 - Brine

Laboratory: Lubbock

Analytical Method: S 6010CPrep Method: S 3005A Analysis: Na, Dissolved QC Batch: 1191272015-02-06 Date Analyzed: Analyzed By: RR100546 2015-01-27 RRPrep Batch: Sample Preparation: Prepared By:

RLFlag Parameter Cert Result Units Dilution RL 116000 1000 1.00 Dissolved Sodium mg/LQs 2,3,4,5

Key Eunice Brine Key Eunice Brine Eunice, NM **Sample: 385265 - Brine** Laboratory: Lubbock Analysis: рН Analytical Method: SM 4500-H+ Prep Method: N/A QC Batch: 118893 Date Analyzed: 2015-01-27 Analyzed By: ATPrep Batch: 100544 Sample Preparation: 2015-01-27 Prepared By: ATRLResult Dilution Parameter Flag Cert Units RLрН 1,2,4,5 7.11 s.u. 2.00 Sample: 385265 - Brine Laboratory: Lubbock Analysis: Specific Gravity Analytical Method: ASTM D1429-95 Prep Method: N/A QC Batch: CF 1188852015-01-27 Analyzed By: Date Analyzed: Prep Batch: 100533 Sample Preparation: 2015-01-27 CF Prepared By: RLParameter Flag Cert Result Units Dilution RL1.1590.000 Specific Gravity g/ml 1 Sample: 385265 - Brine Laboratory: Lubbock Analysis: TDS Analytical Method: SM 2540CPrep Method: N/A QC Batch: 118979 Date Analyzed: 2015-01-28 Analyzed By: RL100618 Prep Batch: Sample Preparation: Prepared By: RLRLFlag Parameter Cert Result Units Dilution RL

1,2,3,4,5

238000

mg/L

2000

2.50

Work Order: 15012704

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Report Date: February 18, 2015

Total Dissolved Solids

Report Date: February 18, 2015 Work Order: 15012704 Page Number: 7 of 17 Key Eunice Brine Eunice, NM

Method Blanks

Method Blank (1) QC Batch: 118885

QC Batch: 118885 Date Analyzed: 2015-01-27 Analyzed By: CF Prep Batch: 100533 QC Preparation: 2015-01-27 Prepared By: CF

Method Blank (1) QC Batch: 118979

QC Batch: 118979 Date Analyzed: 2015-01-28 Analyzed By: RL Prep Batch: 100618 QC Preparation: 2015-01-28 Prepared By: RL

Method Blank (1) QC Batch: 119127

QC Batch: 119127 Date Analyzed: 2015-02-06 Analyzed By: RR
Prep Batch: 100546 QC Preparation: 2015-01-27 Prepared By: PM

Method Blank (1) QC Batch: 119181

QC Batch: 119181 Date Analyzed: 2015-02-02 Analyzed By: RL Prep Batch: 100787 QC Preparation: 2015-02-02 Prepared By: RL

Report Date: February 18, 2015 Key Eunice Brine Work Order: 15012704 Key Eunice Brine Page Number: 8 of 17 Eunice, NM

			MDL		
Parameter	Flag	Cert	Result	Units	RL
Total Dissolved Solids		1,2,3,4,5	<25.0	$\mathrm{mg/L}$	2.5

Method Blank (1) QC Batch: 119429

QC Batch: 119429 Date Analyzed: 2015-02-17 Prep Batch: 101000 QC Preparation: 2015-02-17

Analyzed By: RL Prepared By: RL

Report Date: February 18, 2015 Work Order: 15012704 Page Number: 9 of 17 Key Eunice Brine Eunice, NM

Duplicates

Duplicates (1) Duplicated Sample: 385269

QC Batch: 118885 Date Analyzed: 2015-01-27 Analyzed By: CF Prep Batch: 100533 QC Preparation: 2015-01-27 Prepared By: CF

RPD Duplicate Sample RPDResult Result Dilution Limit Param Units 1.074 Specific Gravity 1.072 g/ml 0 200

Duplicates (1) Duplicated Sample: 385269

QC Batch: 118893 Date Analyzed: 2015-01-27 Analyzed By: AT Prep Batch: 100544 QC Preparation: 2015-01-27 Prepared By: AT

		Duplicate	Sample				RPD
Param		Result	Result	Units	Dilution	RPD	Limit
пH	1245	6.79	6.78	S 11	1	0	20

Duplicates (1) Duplicated Sample: 385486

QC Batch: 118979 Date Analyzed: 2015-01-28 Analyzed By: RL Prep Batch: 100618 QC Preparation: 2015-01-28 Prepared By: RL

		Duplicate	Sample				RPD
Param		Result	Result	Units	Dilution	RPD	Limit
Total Dissolved Solids	1,2,3,4,5	923	904	mg/L	10	2	10

Duplicates (1) Duplicated Sample: 385552

QC Batch: 119181 Date Analyzed: 2015-02-02 Analyzed By: RL Prep Batch: 100787 QC Preparation: 2015-02-02 Prepared By: RL

Report Date: February 18, 2015 Key Eunice Brine

Work Order: 15012704 Page Number: 10 of 17 Key Eunice Brine Eunice, NM

		Duplicate	Sample				RPD
Param		Result	Result	Units	Dilution	RPD	Limit
Total Dissolved Solids	1,2,3,4,5	219000	219000	$\mathrm{mg/L}$	2000	0	10

Report Date: February 18, 2015 Work Order: 15012704 Page Number: 11 of 17 Key Eunice Brine Eunice, NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 118979 Date Analyzed: 2015-01-28 Analyzed By: RL Prep Batch: 100618 QC Preparation: 2015-01-28 Prepared By: RL

			LCS			$_{ m Spike}$	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Total Dissolved Solids		1,2,3,4,5	996	mg/L	10	1000	<25.0	100	90 - 110

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

			LCSD			Spike	Matrix		Rec.		RPD
Param	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Dissolved Solids		1,2,3,4,5	984	mg/L	10	1000	<25.0	98	90 - 110	1	10

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: 119127 Date Analyzed: 2015-02-06 Analyzed By: RR
Prep Batch: 100546 QC Preparation: 2015-01-27 Prepared By: PM

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Dissolved Sodium		2,3,4,5	56.0	mg/L	1	52.5	< 0.0184	107	85 - 115

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

			LCSD			$_{\rm Spike}$	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Dissolved Sodium		2,3,4,5	57.2	mg/L	1	52.5	< 0.0184	109	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: 119181 Date Analyzed: 2015-02-02 Analyzed By: RL Prep Batch: 100787 QC Preparation: 2015-02-02 Prepared By: RL

Report Date: February 18, 2015

Work Order: 15012704 Key Eunice Brine Key Eunice Brine

			LCS			Spike	Matrix		Rec.
Param	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Total Dissolved Solids		1,2,3,4,5	998	mg/L	10	1000	<25.0	100	90 - 110

Page Number: 12 of 17

Eunice, NM

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

			LCSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Dissolved Solids		1,2,3,4,5	992	mg/L	10	1000	<25.0	99	90 - 110	1	10

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

Laboratory Control Spike (LCS-1)

Analyzed By: RL QC Batch: 119429 Date Analyzed: 2015-02-17Prep Batch: 101000 Prepared By: RL QC Preparation: 2015-02-17

			LCS			$_{ m Spike}$	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		1,2,3,4,5	24.2	mg/L	1	25.0	0.797	94	90 - 110

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

			LCSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	$^{\mathrm{C}}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		1,2,3,4,5	24.4	mg/L	1	25.0	0.797	94	90 - 110	1	20

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

Report Date: February 18, 2015 Work Order: 15012704 Page Number: 13 of 17 Key Eunice Brine Eunice, NM

Matrix Spikes

Matrix Spike (xMS-1) Spiked Sample: 385041

QC Batch: 119127 Date Analyzed: 2015-02-06 Analyzed By: RR
Prep Batch: 100546 QC Preparation: 2015-01-27 Prepared By: PM

			MS			Spike	Matrix		Rec.
Param	\mathbf{F}	$^{\mathrm{C}}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Dissolved Sodium		2,3,4,5	1660	mg/L	1	525	1210	86	75 - 125

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

				MSD			Spike	Matrix		Rec.		RPD
Param		\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Dissolved Sodium	Qs	Qs	2,3,4,5	1580	mg/L	1	525	1210	70	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: 385174

QC Batch: 119429 Date Analyzed: 2015-02-17 Analyzed By: RL Prep Batch: 101000 QC Preparation: 2015-02-17 Prepared By: RL

			MS			$_{ m Spike}$	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		1,2,3,4,5	2750	mg/L	100	2500	362	96	80 - 120

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

			MSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		1,2,3,4,5	2740	mg/L	100	2500	362	95	80 - 120	0	20

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

Report Date: February 18, 2015 Work Order: 15012704 Page Number: 14 of 17 Key Eunice Brine Eunice, NM

Calibration Standards

Standard (ICV-1)

QC Batch: 118893 Date Analyzed: 2015-01-27 Analyzed By: AT

				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
рН		1,2,4,5	s.u.	7.00	7.01	100	98.6 - 101.4	2015-01-27

Standard (CCV-1)

QC Batch: 118893 Date Analyzed: 2015-01-27 Analyzed By: AT

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
На		1.2.4.5	S.11.	7.00	7.01	100	98.6 - 101.4	2015-01-27

Standard (ICV-1)

QC Batch: 119127 Date Analyzed: 2015-02-06 Analyzed By: RR

				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Dissolved Sodium		2,3,4,5	mg/L	51.0	51.7	101	90 - 110	2015-02-06

Standard (CCV-1)

QC Batch: 119127 Date Analyzed: 2015-02-06 Analyzed By: RR

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Dissolved Sodium		2,3,4,5	mg/L	51.0	55.9	110	90 - 110	2015-02-06

Report Date: February 18, 2015 Work Order: 15012704 Page Number: 15 of 17 Key Eunice Brine Eunice, NM

Standard (CCV-1)

QC Batch: 119429 Date Analyzed: 2015-02-17 Analyzed By: RL

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		1,2,3,4,5	mg/L	25.0	24.3	97	90 - 110	2015-02-17

Standard (CCV-2)

QC Batch: 119429 Date Analyzed: 2015-02-17 Analyzed By: RL

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		1,2,3,4,5	mg/L	25.0	24.3	97	90 - 110	2015-02-17

Report Date: February 18, 2015 Work Order: 15012704 Page Number: 16 of 17 Key Eunice Brine Eunice, NM

Appendix

Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

Laboratory Certifications

	Certifying	Certification	Laboratory
\mathbf{C}	Authority	Number	Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	PJLA	L14-93	Lubbock
2	Kansas	Kansas E-10317	Lubbock
3	LELAP	LELAP-02003	Lubbock
4	NELAP	T104704219-14-10	Lubbock
5		2014-018	Lubbock

Standard Flags

- F Description
- B Analyte detected in the corresponding method blank above the method detection limit
- H Analyzed out of hold time
- J Estimated concentration
- Jb The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
- Je Estimated concentration exceeding calibration range.
- MI1 Split peak or shoulder peak
- MI2 Instrument software did not integrate
- MI3 Instrument software misidentified the peak
- MI4 Instrument software integrated improperly
- MI5 Baseline correction
- Qc Calibration check outside of laboratory limits.
- Qr RPD outside of laboratory limits
- Qs Spike recovery outside of laboratory limits.
- Qsr Surrogate recovery outside of laboratory limits.

Report Date: February 18, 2015 Work Order: 15012704 Page Number: 17 of 17 Key Eunice Brine Eunice, NM

F Description

U The analyte is not detected above the SDL

Attachments

The scanned attachments will follow this page.

Please note, each attachment may consist of more than one page.



ANNUAL CLASS III WELL REPORT FOR 2014

Key Energy Services, Inc. (Key)

State S Brine Station

Permit BW-028

API No. 30-025-33547

May 30, 2015

Submitted by:

BJ Sisson | Key Energy Services

Area Manager PB SWD Management P.O. Box 1294 Brownfield, TX 79316

o: 806.637.3507 l f: 806.637.0054 l c: 806.401.4349

bsisson@keyenergy.com

Prepared By: Wayne Price- Price LLC

505-715-2809

wayneprice77@earthlink.net



ANNUAL CLASS III WELL REPORT FOR 2014

Key Energy Services, Inc. (Key)
State S Brine Station
Permit BW-028
API No. 30-025-33547
May 30, 2015

Prepared By: Wayne Price- Price LLC

505-715-2809

wayneprice77@earthlink.net

Bullet Point 2- Summary of Operations:

(Permit Condition 2.J.2 Annual Report: "Summary of Class III well operations for the year including a description and reason for any remedial or major work on the well with a copy of C-103.")

During the 2014 year, there was no major remedial work required at the brine well. General housekeeping was routinely performed and third party (Price LLC) on-site inspections were conducted to ensure permit conditions were being maintained.

Key recently upgraded the State S Brine Station with a Web Based monitoring, Automation System. This system monitors all equipment, fluid levels, and driver access. The ICS system also sends out alarms to personnel via text or Email, as well as, allows users to monitor and control remotely via the WWW.

The OCD held a Brine Well Operators meeting in Hobbs on September 05, 2012 to discuss permit changes. The most notable change by OCD was the removing of the annual "open-to-formation" pressure test requirement. Key Energy Services, Inc. (Key) as most operators, did not run an MIT in 2014.

Yearly cavity size calculations were analyzed to determine cavern size and stability. The calculated cavern radius grew about 2.38 feet this year, from 71.62 ft to 74.0 ft, for an estimated worst-case maximum diameter of 148 ft.

The "Area of Review" reflected no issues and is described in detail below. The cavern subsidence monitors were surveyed and no issues were noted.

Bullet Point 3- Production Volumes:

(Permit condition 2.J.3 "Monthly fluid injection and brine production volume, including the cumulative total carried over each year"

Key has an electronic card system that tracks sales of both fresh and brine water. In addition, Key has Halliburton flow meters on the well to monitor both water injected and brine produced.

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 in <u>Appendix A</u>. The total 2014 brine production volume was 310,392 bbls and the lifetime production volume is 4,820,500 bbls.

Bullet Point 4- "Injection Pressure Data."

(Permit condition 2.J.4 "Injection Pressure Data"

A new submersible centrifugal injection pump was installed in the fresh water storage tank in the 2014 year. The maximum injection pressure is now 450 psig, and has an automatic shut-down switch set at 300 psig, which is approximately105 pounds below the permit maximum of 405 psig.

For this reason, permit condition 3.B.2. **Pressure Limiting Device:** "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, and usually averages about 120 psig. This reading is taken from a pressure gauge mounted on the wellhead inlet.

Brine Well injection pressure gauge readings are observed and recorded on a daily basis.

Bullet Point 5- Chemical Analysis:

(Permit condition 2.J.5 "A copy of the quarterly chemical analysis shall be included with data summary and all QA/QC information.")

Please find attached in <u>Appendix B</u> the 1st, 2nd, and 4th quarter chemical analysis and chain-of-custody of the brine and fresh water injection water samples collected for the annual report. The laboratory used common approved EPA methods to analyze and reporting. This year the 3 rd quarter results were missed due to a new monitoring system being installed. OCD was notified of the event.

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 and meets EPA's Safe Drinking Water Standards.

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 a high density of 1.20 specific gravity. This analysis is very representative of Salado "Salt" formation waters found in the area. The last quarterly report indicated a SG of 1.15, which is probably attributed to the well taken out of service during the fall, but Key will monitor the density to determine if a pattern is devolping.

Bullet Point 6- Mechanical Integrity:

(Permit condition 2.J.6 "Copy of any mechanical integrity test chart, including the type of test, i.e., duration, gauge pressure, etc;")

In 2014, no MIT was required and the next scheduled MIT will occur in 2016, as approved by OCD.

Bullet Point 7- Deviations from Normal Production Methods:

(Permit condition 2.J.7 "Brief explanation describing deviations from normal operations.")

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 2014 year, Key continued the normal flow production procedure and encountered no problems during this time.

Bullet Point 8- Leak and Spill Reports:

(Permit condition 2.J.8 "Results of any leaks and spill reports;")

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 are 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. Small quantities of rainwater, which cannot be pumped are 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.

In 2014 there were no reportable leaks or spills.

Bullet Point 9- Area of Review Update Summary:

(Permit condition 2.J.9 "An Area of Review (AOR) update 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 and aerial AOR plot plan has been constructed (see <u>Appendix C</u>) 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 800 ft and! mile, well checked for casing program status, casing/cementing status, and corrective action required status.

There are a total of 45 wells located within these adjacent units, with one added in 2014, and another two have been proposed but not drilled. Within a! mile radius of the brine well there are 18 wells, and 4 wells are actually within the 800-foot critical radius. One well was actually removed from the list (30-025-41600) as it is not within the critical radius, but was shown last year inappropriately.

This comprehensive list was formulated to provide a baseline for future AOR studies. Since any future brine wells may be limited in size, a critical AOR was established, and all wells within that radius will be 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! 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. 148 ft (r = 74.0 ft) up-dated for 2014, and added a 10:1 safety factor which equates to about 740 ft. As the brine well grows, the critical AOR will be expanded and new wells will be added.

All four wells located in the critical zone were reinvestigated by checking the OCD on-line well records. There was no well activity for any of these wells reported since the last review. They are identified as API# 30-025-09914, 30-025-09913 (P&A), 30-025-06586, and 30-025-39277. (Checked by Price LLC, Apr 2015)

Casing programs were checked on wells, API# 30-025-41600 and 30-025-41485, to ensure casing/cement is across the salt section.

Bullet Point 10- Subsidence/Cavern Volumes/Geometric Measurements

(Permit condition 2.J.10. "A summary with interpretations of MIT's, surface subsidence surveys, cavern volume and geometric measurements with conclusion(s) and recommendation(s);")

The last cavern survey did not provide adequate information pertaining to the size of the cavern. This has been an issue with many 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 0.66 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 considered.

The alternate method mentioned above involves calculating the maximum diameter of the cavern by using a worst-case scenario of an "upright cone".

The cavern volume is calculated using the lifetime brine production volume and multiplying it by 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, which equates that every barrel of brine produced, will create approximately one cubic foot of cavity.

Please find attached in <u>Appendix D</u>, a wellbore sketch, the calculations for the brine well, and the lifetime brine production tally of approximately 4.82 million barrels of brine produced as of December 2014. The maximum diameter was calculated to be approximately 148 feet with a corresponding D/H ratio of 0.109, updated for the 2014 year.

Comparing the current D/H ratio of 0.109 to the 0.66 value mentioned above, it can be concluded that the current brine well status meets and exceeds the recommended safety value by six times.

Permit Condition 2.B. SOLUTION CAVERN MONITORING PROGRAM:

1. Surface Subsidence Monitoring Plan: The Permittee shall submit a Surface Subsidence Monitoring Plan to OCD within 180 days of the effective data of this permit. The Surface Subsidence Monitoring Plan shall specify that the Permittee will install at least three survey monuments and shall include a proposal to monitor the elevation of the monuments at least semiannually.

The Permittee shall survey each benchmark at least semiannually to monitor for possible surface subsidence and shall tie each survey to the nearest USGS benchmark. The Permittee shall employ a licensed professional surveyor to conduct the subsidence monitoring program. The Permittee shall submit the results of all subsidence surveys to OCD within 15 days of the survey. If the monitored surface subsidence at any measuring point reaches 0.10 feet compared to its baseline elevation, then the Permittee shall suspend operation of the Class III well . If the Permittee cannot demonstrate the integrity of the cavern and well to the satisfaction of OCD, then it shall cease all brine production and submit a corrective action plan to mitigate the subsidence.

Key Response: Key has a surveyed subsidence monitoring systems in-place. Due to an internal mis-communication between Key Departments, Key's consultant, and the Surveying Contractor, the 2014 monitoring was not conducted. Key's consultant, Price LLC, contacted Mr. Jim Griswold, OCD Environmental Bureau Chief, and agreed and received approval to run 4 quarters in 2015, instead of the two required in the permit. The first and second quarters of 2015 have been performed and no unusual readings were noticed.

Special Note: Key <u>requested a Minor Modification</u> that allows the results be supplied in the annual report, unless there is an exceedance, as noted in the permit. OCD approved the modification and the approval is included in "Appendix E".

2. Solution Cavern Characterization Program: The Permittee shall submit a Solution Cavern Characterization Plan to characterize the size and shape of the solution cavern using geophysical methods within 180 days of the effective date of this permit. The Permittee shall characterize the size and shape of the solution cavern using a geophysical methods approved by OCD at least once before November 8, 2018. The Permittee shall demonstrate that at least 90% of the calculated volume of salt removed based upon injection and production volumes has been accounted for by the approved geophysical method(s) for such testing to be considered truly representative.

Solution Cavern Characterization Plan: Key proposed to use a combination of calculated results as determined above, and will experiment with various geophysical methods, including actually performing an "Induced Current Method" and report these results in the annual report.

The 'Induced Current' Method has not been successful, primarily to bad connections and low voltage used. Key will continue trying this method and others as approved by OCD. The old fashion cavern calculation continues to be the best economic method available.

Bullet Point #11- Ratio of Injected/Produced Fluids

(Permit condition 2.J.11 "A summary of the ratio of the volume of injected fluids to the volume of produced brine;")

Enclosed in <u>Appendix A</u> is the tables section of the report showing the injection and production data and the comparison chart of injected water to produced water with comments.

The 2014 results show a somewhat normal 16.56% variance, while the total variance during the life of the well is 4.6%.

Special Note: **Key requests a minor modification of the permit requirement 3.K** "The Permittee shall suspend injection if the monthly injection volume is less than 110% or greater than 120% of associated brine production. If such an event occurs, the Permittee shall notify OCD within 24 hours."

Dear Jim Giswold-NMOCD Environmental Bureau Chief: As you know, this topic has been discussed and kicked around for a long time. The current permit requirement does not take into account many factors that can cause the variance to be under or over the requirement of 110%-120%. Every year we report this number in the annual report and while the average monthly injection for the year is normally within range, the actual monthly numbers can and are sometimes under and over. There are many reasons for this as we have discussed, and thus the requirement to suspend operations is not based on any real parameter or trend that may be an immediate threat to the well, groundwater or the environment. The current requirement put operators in a continuous violation and interruption of operations. Notwithstanding, if you have a well that takes water without producing, or starts to pressure up, then you know you may have lost circulation or communicated to a pressure zone, then immediate action should be taken and notification to the agency. Currently the permit reads as follows:

The Permittee shall immediately suspend injection and notify the agency within 72 hours, if the Fresh Water Injection does not cause a normal immediate return of Brine Water to the surface, or if the well flows excessively for an unusual amount of time without fresh water injection after the cavern pressure has been stabilized to it's normal operating pressure, or if permittee has become aware of any out of zone injection or communication. The Permittee shall include in each annual report a summary showing the monthly variance, the average monthly variance for the year and the total accumulative variance over the life of the well. The operator shall certify and explain that any yearly variance that falls outside of the range of 20%, (Difference between the Fresh Water input and Brine Water output) will not cause harm to Fresh Water, Public Health or the Environment.

Wayne Price-Price LLC

Bullet Point #12- Summary of Activities

(Permit condition 2.J.12 "A summary of all major Facility activities or events, which occurred during the year with any conclusions and recommendations;)

See Bullet Point #2 for summary.

5.B. BONDING OR FINANCIAL ASSURANCE: The Permittee shall submit an estimate of the minimum cost to properly close, plug and abandon its Class III well, conduct ground water restoration if applicable, and any post-operational monitoring as may be needed (see 20.6.2.5210B(17) NMAC) within 90 days of permit issuance (See 20.6.2.5210B(17) NMAC). The Permittee's cost estimate shall be based on third person estimates. After review, OCD will require the Permittee to submit a single well plugging bond based on the third person cost estimate.

Appendix "F" contains a third party closure estimate for the Eunice BW-18 brine well.

Bullet Point #13- Annual Certification

(Permit condition 2.J.13 "Annual Certification in accordance with Permit Condition 2.B.3. "2.B.3. Annual Certification: The Permittee shall certify annually that continued salt solution mining will not cause cavern collapse, surface subsidence, property damage, or otherwise threaten public health and the environment, based on geologic and engineering data.")

<u>Operator Response:</u> Based on all current information and actual on-site observance, the operator of record herby certifies that the current operations pose no threat to public health and the environment at the submission of this report. If any substantial event that, has or may cause, this current certification to change, then the operator will notify OCD and take the necessary actions to protect the public and environment.

By signing the cover sheet of Bullet Point 1 of permit condition 2.J.1, the operator herby certifies this condition of the permit.

Bullet Point 14- Groundwater Monitoring:

(Permit condition 2.J.14 "A summary of any new discoveries of ground water contamination with all leaks, spills and releases and corrective actions taken;")

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.

Bullet Point 15- Annual Reporting

(Permit condition 2.J.15 "The Permittee shall file its Annual Report in an electronic format with a hard copy submitted to OCD's Environmental Bureau.")

The operator herby submits a PDF file on flash drive and one hard copy.

Appendix A-

- Production Table
- Injection Comparison Chart

		TABLE	24 4 1204 20 4	I Downest De'	TABLE 1	N M-1		i-t	
			014 BW-28 Annua	Report Brine				istory Volumes	,
		Reported		Annual Brine	Reported	Quarterly	Annual		
Year	Month	Monthly	Quarterly Brine	Production	Monthly	Freshwater	Freshwater	Comments	Operator
· cui	morner	Brine	Production (bbls)	(bbls)	Freshwater	Injection	Injection	Comments	operator .
		Production		(6613)	Injection	(hhls)	(hhls)		
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	,	İ	(.,	
	May	38,000			36,571				
	June	47,970	134,196		42,264	126,549			
	July	24,711	101,170	Ť	24,271	120,017	İ		
	August	31,817			31,559				
	September	38,120	94,648		38,697	94,527			1
			74,040	ŧ		74,327	t		1
	October November	27,462 26,618	1		25,512		1		i
			70 017	250 / 42	26,261	47 (22	350.034		1
1000	December	16,137	70,217	359,643	15,850	67,623	350,034		1
1998		13,301	1		13,614		1		+
	February	47,212	100 5		49,552	100 15-			1
	March	42,337	102,850	+	44,964	108,130	ł		4
	April	27,072	+		27,519				+
	May	18,084			18,161		1		4
	June	26,699	71,855	+	26,976	72,656	ļ		1
	July	16,535	1		15,929		1		4
	August	8,287	1		7,488				4
	September	9,994	34,816	1	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	,	Ī	34,566	,	İ		
	August	35,876			35,995				
	September	43,196	114,350		42,724	113,285			
	October	9,700			10,097	,	İ		
	November	8,383			9,080				
	December	28,662	46,745	240,310	29,721	48,898	240,928		
2000		65,492	,	,	65,028	,			
	February	37,709			36,909				
	March	40,409	143,610		40,414	142.351	1		1
	April	20,181	143,010	Ť	20,404	. 72,331	İ		1
	May	52,092	1		50,373		1		1
	June	41,371	113,644		37,776	108,553	1		1
	July	33,860	113,044	†	31,757	100,333	İ		1
	August	37,535	1		35,492				1
	September	58,042	129,437		53,472	120,537			1
	October	28,777	127,437	†	27,216	120,337	İ		1
	November	22,677	1		24,130				1
	December	17,670	69,124	455,815	17,369	68,715	440,156		1
2001	January	32,427	07,124	455,615	37,083	00,715	440,130		1
	February	17,493	1		23,076		1		i
	March	34,050	83,970		33,216	93,375	1		i
	ividi UI	34,050	83,970	t	33,∠16	43,3/5	t		Change to V-1- F
	April	22.000			2/ 0/ -				Change to Yale E.
	April	32,900	1		36,064				Key
	May	66,724	407.004		52,555	120.077			1
	June	37,607	137,231	ł	42,347	130,966	+		1
	July	16,399	1		15,588		1		4
	August	10,173			33,664	,	1		4
	September	16,185	42,757	+	16,200	65,452	ł		1
		25,184	1		24,147				1
	October		1	1	8,666				1
	November	10,447					341,339		
	November December	21,061	56,692	320,650	18,733	51,546	341,337		
2002	November December January	21,061 11,809	56,692	320,650	10,135	51,546	341,337		
2002	November December January February	21,061 11,809 22,700		320,650	10,135 23,733		341,337		
2002	November December January	21,061 11,809	56,692 39,202	320,650	10,135	38,237	341,337		
2002	November December January February	21,061 11,809 22,700		320,650	10,135 23,733		341,337		

		TABLE 1 20	014 BW-28 Annua	I Report Brine	TABLE 1 Well Product	ion Volumes a	nd Lifetime Hi	story Volumes	
		Reported			Reported	Quarterly	Annual	,	
		Monthly	Quarterly Brine	Annual Brine	Monthly	Freshwater	Freshwater		
Year	Month	Brine	Production (bbls)	Production	Freshwater	Injection	Injection	Comments	Operator
		Production		(bbls)	Injection	(hhls)	(hbls)		
	July	8,301			10,688				
	August	7,079			6,842		-		
		18,560	22.040		17,240	24 770	-		
	September	18,560	33,940	+		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			
	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		Ī		
-	September	7,945	44,604		5,056	26,180	Ī		
-	October	12,014			10,394		Ī		
	November	26,100			12,438		ļ		
	December	38,748	76,862	248,309	18,218	41,050	185,798		
2004	January	7,980	. 2,202	,,	8,539	,250	. 2, 0		
	February	8,130	1		8,797		ļ ,		
	March	8,220	24,330		8,894	26,230	ŀ		
	April	29,898	24,530	t	31,931	20,230	ļ.		
	May	14,233	1		15,428		ŀ		
	June	28,716	72,847		30,410	77,769	ļ-		
			12,041	+		11,109	-		
	July	1,840 29,898			2,060 30,201		-		
	August		F2.01F			F0 F07	-		
	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		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	1		35,511		f		
	March	39,492	91,222		38,630	94,118	ļ		
	April	40,194	,222	Ť	43,605	, . 10	ļ.		
	May	51,009			54,630		ŀ		
	June	22,374	113,577		24,832	123,067	ļ.		
	July	38,208	113,377	t	37,613	.23,007	ŀ		
			1				ļ.		
	August September	35,627 48,784	122,619		36,201 47,312	121,126	ŀ		
		50,375	122,019	t	51,232	121,120	ŀ		
	October						ŀ		
	November	26,084	04 (00	410 101	27,670	00.101	407.455		
000-	December	8,224	84,683	412,101	10,202	89,104	427,415		
2007	January	31,540			33,320		ļ		
									Change to Key
	February	24,313			25,260		L		Energy Services
	March	40,514	96,367	1	38,412	96,992	_		
	April	34,095			35,120				
	May	19,308			23,130				
	June	9,170	62,573	1	11,009	69,259			
	July	30,857			28,468		Ī		
	August	12,394	1		18,884		f		
	September	25,970	69,221		23,360	70,712	ļ.		
	October	7,882	37,221	t	7,643	, 0,, 12	ļ.		
	November	2,476	1		2,630		ļ.		
	December	3,933	14,291	242,452	4,528	14,801	251,764		
2008	January	1,706	14,291	242,432	1,982	14,001	201,704		
∠∪∪8			1				F		
	February	5,845 21,386	28,937		6,203 21,673	29,858	ŀ		
	March								

		TAPLE 1 20	014 BW-28 Annua	I Penort Prins	Well Product	ion Volumos a	nd Lifetime II	istory Volumos	
	ı		ovv-∠8 Annua אועם אונ	Report Brine				istory voidmes	
	1	Reported		Annual Brine	Reported	Quarterly	Annual		
Year	Month	Monthly	Quarterly Brine	Production	Monthly	Freshwater	Freshwater	Comments	Operator
		Brine	Production (bbls)	(bbls)	Freshwater	Injection	Injection		
		Production		(55.5)	Injection	(hhls)	(bbls)		
	May	17,100			19,842		Į Į		
	June	16,598	59,485	1	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	107,001	t	26,551	112,020			
	November	27,325			25,792				
	December	26,825	79,722	278,005	28,694	81,037	282,948		
2000			19,122	276,003		01,037	202,940		
2009	January	20,990			21,310				
	February	650			1,306				
	March	3,249	24,889	1	3,420	26,036			
	April	5,428			5,360				
	May	1,343			1,762				
	June	630	7,401	1	1,232	8,354			
	July	1,546			1,673				
	August	881			1,031				
	September	2,672	5,099		2,930	5,634			
	October	9,898	.,,,,,,	Ī	8,861	.,,,,,,			
	November	3,716			3,618				
	December	1,474	15,088	52,477	2,035	14,514	54,538		
2010	January	1,474	13,000	JZ,411		14,514	34,330		
2010					1,810		}		
	February	1,650	F 7.0		1,810	/ 500			
	March	4,092	5,742	+	4,789	6,599			
	April	5,092			6,150				
	May	12,256			14,953	_			
	June	2,099	19,447	1	2,033	23,136			
	July	5,068			6,322				
	August	10,270			15,126				
	September	11,281	26,619	1	10,334	31,782			
-	October	7,575			8,802				
	November	20,304	1		24,494				
	December	36,765	64,644	116,452	44,153	77,449	138,966		
2011	January	44,126	01,011	110,102	52,975	,,,,,,	100,700		
2011	February	24,388			29,666				
			07.005			105.005			
	March	19,421	87,935	+	23,284	105,925			
	April	18,356			22,365				
	May	9,828			11,754	_			
	June	15,661	43,845	ļ	18,902	53,021			
	July	17,503			20,961				
	August	14,401			17,273		l l		
	September	5,430	37,334	1	16,000	54,234	[
	October	11,359			8,284				
-	November	18,585			19,662				
	December	23,228	53,172	222,286	27,806	55,752	268,932		
2012	January	21,570	55/172		25,897	22,.02			
	February	12,230	1		14,854				
	March	10,124	43,924		12,190	52,941			
			43,924	ł	22,110	32,941	}		
	April	18,185							
	May	23,761			28,667				
	June	31,207	73,153	4	37,707	88,484			
	July	20,931			25,225				
	August	31,025			35,837				
	September	29,414	81,370		34,226	95,288	ļ [
	October	17,507			21,138				
	November	28,038			33,360				
	December	23,015	68.560	267.007	25,205	79,703	316,416		
2013		16,097			21,395	, . 00	2.2,.10		
	February	17,379			20,812				
			40.000			(4.105	}		
	March	14,816	48,292	4	21,978	64,185			
	April	19,374			23,799				
	May	23,932			25,979				
	June	34,926	78,232]	38,500	88,278	ļ [
	July	18,446			22,414				
	August	29,958	1		35,877				
			65,327		20,230	78,521			
	September	16,923	65,327	1		70,321	}		
	October	22,409			25,868				
	November	14,139			16,972	_			
	December	24,920	61 468	253 319	29,762	72,602	303,586		
		04 440	l	1	35,865				
2014	January	31,460			33,603				

		TABLE 1 20	014 BW-28 Annua	Report Brine	TABLE 1 Well Product	ion Volumes a	ınd Lifetime Hi	story Volumes	
Year	Month	Reported Monthly Brine Production	Quarterly Brine Production (bbls)	Annual Brine	Poportod	Quarterly Freshwater Injection (bbls)	Annual Freshwater Injection (bbls)	Comments	Operator
	March	43,210	113,284		50,710	132,019		Ī	
	April	36,217			44,597				
	May	45,170			54,007				
	June	24,524	105,911		23,748	122,352			
	July	19,428			20,442				
	August	15,545			24,683				
	September	23,652			26,341	71,466			
	October	5,692			7,057				
	November	10,914			13,136				
	December	15,966	32 572	310 392	17,466	37,659	363,496		
TOT	AL VOLLIMES			4,820,500			5,057,926		

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

4,820,500

5,057,926

INJECTION AND PRODUCTION COMPARISON CHART

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

WATER IN-WATER OUT BBLS

YEAR 2014

MONTH	WATER IN	WATER OUT	PSI	RATIO OF WATER IN-OUT
Jan-11	35,865	31,460	120	12.28% ***
Feb-11	45,444	38,614	120	15.03% ***
Mar-11	50,710	43,210	120	14.79% ***
Apr-11	44,597	36,217	120	18.79% ***
May-11	54,007	45,170	120	16.36% ***
Jun-11	23,748	24,524	120	-3.27% ***
Jul-11	20,442	19,428	120	4.96% ***
Aug-11	24,683	15,545	120	37.02% ***
Sep-11	26,341	23,652	120	10.21% ***
Oct-11	7,057	5,692	120	19.34% ***
Nov-11	13,136	10,914	120	16.92% ***
Dec-11	17,466	15,966	120	8.59% ***
TOTAL	363,496	310,392		

YEARLY RATIO % MONTHLY AVERAGE %

BRINE PRODUCTION BBLS 310,392 14.61% 14.43% FRESH WATER INJECTION BBLS 363,496

NOTES:

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.

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

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

Appendix B - Chemical Analysis

Report Date: April 18, 2014 Work Order: 14040413 Page Number: 1 of 1

Summary Report

(Corrected Report)

Wayne Price Key Energy-Rio Rancho 312 Encanatado Ridge Ct. NE Rio Rancho, NM 87124

Report Date: April 18, 2014

Work Order: 14040413

Project Name: Ist Qtr. Sampling

Project Number: BW-28

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
359741	Fresh	water	2014-04-02	14:30	2014-04-03
359742	Brine	water	2014-04-02	14:30	2014-04-03

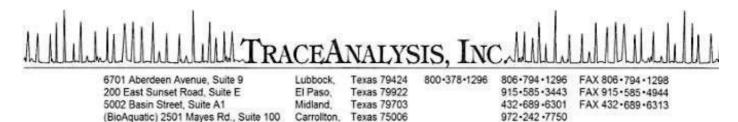
Sample: 359741 - Fresh

Param	Flag	Result	Units	RL
Chloride		71.0	mg/L	2.5
Density		1.00	g/ml	
pН		8.20	s.u.	2
Total Dissolved Solids		421	mg/L	2.5

Sample: 359742 - Brine

Param	Flag	Result	Units	RL
Chloride		219000	mg/L	2.5
Density		1.19	g/ml	
Dissolved Sodium		103000	mg/L	1
pH		7.15	s.u.	2
Total Dissolved Solids	1	298000	mg/L	2.5

¹Reanalyzed out of hold time for confirmation.



E-Mail: lab@traceanalysis.com WEB: www.traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

(Corrected Report)

Wayne Price Key Energy-Rio Rancho 312 Encanatado Ridge Ct. NE Rio Rancho, NM, 87124

Report Date: April 18, 2014

Work Order: 14040413

Project Name: lst Qtr. Sampling

Project Number: BW-28

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

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
359741	Fresh	water	2014-04-02	14:30	2014-04-03
359742	Brine	water	2014-04-02	14:30	2014-04-03

Report Corrections (Work Order 14040413)

 \bullet 4/18/14: Reran TDS on sample 359742.

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 17 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Michael april

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

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Case Narrative

Samples for project lst Qtr. Sampling were received by TraceAnalysis, Inc. on 2014-04-03 and assigned to work order 14040413. Samples for work order 14040413 were received intact at a temperature of 20.0 C.

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

		Prep	Prep	QC	Analysis
Test	Method	Batch	Date	Batch	Date
Chloride (IC)	E 300.0	93996	2014-04-04 at 11:03	111184	2014-04-04 at 11:03
Density	ASTM D854-92	93856	2014-04-09 at 13:45	111019	2014-04-09 at $13:55$
Na, Dissolved	S 6010 C	93827	2014-04-08 at 14:21	111024	2014-04-09 at 15:10
рН	SM 4500-H+	93747	2014-04-04 at 14:46	110872	2014-04-04 at 14:46
TDS	SM 2540C	94004	2014-04-08 at 16:00	111194	2014-04-08 at $16:00$
TDS	SM 2540C	94082	2014-04-16 at 16:00	111286	2014-04-17 at $16:00$

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 14040413 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.

Report Date: April 18, 2014 Work Order: 14040413 Page Number: 5 of 17

BW-28 lst Qtr. Sampling

Analytical Report

Sample: 359741 - Fresh

Laboratory: Lubbock

Prep Method: Analysis: Chloride (IC) Analytical Method: E 300.0 N/AQC Batch: Date Analyzed: 2014-04-04 Analyzed By: RL111184 Prep Batch: 93996 Sample Preparation: 2014-04-04 Prepared By: RL

Sample: 359741 - Fresh

Laboratory: Lubbock

Analysis: Density Analytical Method: ASTM D854-92 Prep Method: N/A QC Batch: 111019 Date Analyzed: 2014-04-09 Analyzed By: CF Prep Batch: 93856 Sample Preparation: 2014-04-09 Prepared By: CF

Sample: 359741 - Fresh

Laboratory: Lubbock

Analytical Method: Prep Method: N/A Analysis: На SM 4500-H+QC Batch: Date Analyzed: 110872 Analyzed By: AT2014-04-04 Prep Batch: 93747 Sample Preparation: 2014-04-04 Prepared By: AT

Sample: 359741 - Fresh

Laboratory: Lubbock

Analysis: TDS Analytical Method: SM 2540C Prep Method: N/AQC Batch: Analyzed By: RL111194 Date Analyzed: 2014-04-08 Prep Batch: 94004 Sample Preparation: Prepared By: RL2014-04-08

Report Date: April 18, 2014 Work Order: 14040413 Page Number: 6 of 17

BW-28 lst Qtr. Sampling

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Total Dissolved Solids		1	421	mg/L	10	2.50

Sample: 359742 - Brine

Laboratory: Lubbock

Analytical Method: E 300.0Prep Method: N/A Analysis: Chloride (IC) QC Batch: 111184 Date Analyzed: 2014-04-04 Analyzed By: RLPrep Batch: 93996 Sample Preparation: 2014-04-04 Prepared By: RL

Sample: 359742 - Brine

Laboratory: Lubbock

Analysis: Density Analytical Method: ASTM D854-92 Prep Method: N/AQC Batch: 111019 CFDate Analyzed: 2014-04-09 Analyzed By: Prep Batch: 93856 Sample Preparation: 2014-04-09 Prepared By: CF

Sample: 359742 - Brine

Laboratory: Lubbock

Analysis: Na, Dissolved Analytical Method: S 6010C Prep Method: S 3005A QC Batch: 111024 Date Analyzed: 2014-04-09 Analyzed By: RRPrep Batch: 93827 Sample Preparation: 2014-04-08 Prepared By: PM

Report Date: April 18, 2014 Work Order: 14040413 Page Number: 7 of 17

BW-28 lst Qtr. Sampling

Sample: 359742 - Brine

Laboratory: Lubbock

Analysis: Analytical Method: SM 4500-H+Prep Method: рН N/AQC Batch: 110872Date Analyzed: 2014-04-04 Analyzed By: ATPrep Batch: 93747 Sample Preparation: 2014-04-04 Prepared By: AT

RL

Sample: 359742 - Brine

Laboratory: Lubbock

Analysis: TDS Analytical Method: $\rm SM~2540C$ Prep Method: N/AQC Batch: 111286Date Analyzed: Analyzed By: RL2014-04-17 Prep Batch: 94082 Sample Preparation: 2014-04-16 Prepared By: RL

RL

 Report Date: April 18, 2014 Work Order: 14040413 Page Number: 8 of 17

BW-28 lst Qtr. Sampling

Method Blanks

Method Blank (1) QC Batch: 111019

QC Batch: 111019 Date Analyzed: 2014-04-09 Analyzed By: CF Prep Batch: 93856 QC Preparation: 2014-04-09 Prepared By: CF

Method Blank (1) QC Batch: 111024

QC Batch: 111024 Date Analyzed: 2014-04-09 Analyzed By: RR
Prep Batch: 93827 QC Preparation: 2014-04-08 Prepared By: PM

Method Blank (1) QC Batch: 111184

QC Batch: 111184 Date Analyzed: 2014-04-04 Analyzed By: RL Prep Batch: 93996 QC Preparation: 2014-04-04 Prepared By: RL

Method Blank (1) QC Batch: 111194

QC Batch: 111194 Date Analyzed: 2014-04-08 Analyzed By: RL Prep Batch: 94004 QC Preparation: 2014-04-08 Prepared By: RL

Report Date: April 18, 2014

BW-28

Work Order: 14040413 lst Qtr. Sampling

			MDL		
Parameter	Flag	Cert	Result	Units	RL
Total Dissolved Solids		1	<25.0	$\mathrm{mg/L}$	2.5

Method Blank (1) QC Batch: 111286

QC Batch: 111286 Prep Batch: 94082 Date Analyzed: 2014-04-17 QC Preparation: 2014-04-16 Analyzed By: RL Prepared By: RL

Analyzed By:

Prepared By:

AT

AT

Page Number: 9 of 17

			MDL		
Parameter	Flag	Cert	Result	Units	RL
Total Dissolved Solids		1	<25.0	m mg/L	2.5

Duplicates (1) Duplicated Sample: 359764

 QC Batch:
 110872
 Date Analyzed:
 2014-04-04

 Prep Batch:
 93747
 QC Preparation:
 2014-04-04

Duplicate RPD Sample Param Result Result Units Dilution RPD Limit 7.45 7.44 \overline{pH} 0 20 1 s.u.

Duplicates (1) Duplicated Sample: 359742

QC Batch: 111019 Date Analyzed: 2014-04-09 Analyzed By: CF Prep Batch: 93856 QC Preparation: 2014-04-09 Prepared By: CF

Duplicate Sample RPD Result Dilution RPD Param Result Units Limit 1.19 1.19 20 Density g/ml 0

Duplicates (1) Duplicated Sample: 359759

QC Batch: 111194 Date Analyzed: 2014-04-08 Analyzed By: RL Prep Batch: 94004 QC Preparation: 2014-04-08 Prepared By: RL

Report Date: April 18, 2014 Work Order: 14040413 Page Number: 10 of 17

BW-28 lst Qtr. Sampling

		Duplicate	Sample				RPD
Param		Result	Result	Units	Dilution	RPD	Limit
Total Dissolved Solids	1	501	514	mg/L	10	3	10

Duplicates (1) Duplicated Sample: 359742

QC Batch: 111286 Date Analyzed: 2014-04-17 Analyzed By: RL Prep Batch: 94082 QC Preparation: 2014-04-16 Prepared By: RL

Duplicate Sample RPD Result Dilution RPD Param Result Units Limit Total Dissolved Solids 299000 298000 2000 mg/L0 10 1

Report Date: April 18, 2014 Work Order: 14040413 Page Number: 11 of 17

BW-28 lst Qtr. Sampling

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 111024 Date Analyzed: 2014-04-09 Analyzed By: RR
Prep Batch: 93827 QC Preparation: 2014-04-08 Prepared By: PM

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Dissolved Sodium		1	53.1	mg/L	1	52.5	< 0.172	101	85 - 115

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

			LCSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Dissolved Sodium		1	53.2	mg/L	1	52.5	< 0.172	101	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: 111184 Date Analyzed: 2014-04-04 Analyzed By: RL Prep Batch: 93996 QC Preparation: 2014-04-04 Prepared By: RL

			LCS			Spike	Matrix		Rec.
Param	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		1	25.1	mg/L	1	25.0	1.24	95	90 - 110

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

			LCSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		1	25.1	mg/L	1	25.0	1.24	95	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: 111194 Date Analyzed: 2014-04-08 Analyzed By: RL Prep Batch: 94004 QC Preparation: 2014-04-08 Prepared By: RL

Report Date: April 18, 2014 Work Order: 14040413 Page Number: 12 of 17

BW-28 lst Qtr. Sampling

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Total Dissolved Solids		1	1010	mg/L	10	1000	<25.0	101	90 - 110

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

			LCSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Dissolved Solids		1	1010	mg/L	10	1000	<25.0	101	90 - 110	0	10

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: 111286 Date Analyzed: 2014-04-17 Analyzed By: RL Prep Batch: 94082 QC Preparation: 2014-04-16 Prepared By: RL

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Total Dissolved Solids		1	1010	mg/L	10	1000	<25.0	101	90 - 110

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

			LCSD			$_{\mathrm{Spike}}$	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Dissolved Solids		1	1010	mg/L	10	1000	<25.0	101	90 - 110	0	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: 359723

QC Batch: 111024 Date Analyzed: 2014-04-09 Analyzed By: RR
Prep Batch: 93827 QC Preparation: 2014-04-08 Prepared By: PM

			MS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Dissolved Sodium		1	3200	mg/L	1	525	2760	84	75 - 125

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

			MSD			$_{\mathrm{Spike}}$	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Dissolved Sodium		1	3220	mg/L	1	525	2760	88	75 - 125	1	20

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

Report Date: April 18, 2014 Work Order: 14040413 Page Number: 13 of 17

BW-28 lst Qtr. Sampling

Matrix Spike (MS-1) Spiked Sample: 359783

Chloride

QC Batch: 111184 Date Analyzed: 2014-04-04 Analyzed By: RL Prep Batch: 93996 QC Preparation: 2014-04-04 Prepared By: RL

Param MS Spike Matrix Rec.

F C Result Units Dil. Amount Result Rec. Limit

mg/L

50

1250

340

101

80 - 120

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

1600

MSD Spike Matrix RPD Rec. F \mathbf{C} Result RPD Param Units Dil. Amount Result Rec. Limit Limit Chloride 1600 mg/L50 1250 340 101 80 - 120 0 20 1

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

Report Date: April 18, 2014 Work Order: 14040413 Page Number: 14 of 17

BW-28 lst Qtr. Sampling

Calibration Standards

Standard (ICV-1)

QC Batch: 110872 Date Analyzed: 2014-04-04 Analyzed By: AT

				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
рН		1	s.u.	7.00	7.01	100	98 - 102	2014-04-04

Standard (CCV-1)

QC Batch: 110872 Date Analyzed: 2014-04-04 Analyzed By: AT

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
pН		1	s.u.	7.00	7.01	100	98 - 102	2014-04-04

Standard (ICV-1)

QC Batch: 111024 Date Analyzed: 2014-04-09 Analyzed By: RR

				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Dissolved Sodium		1	mg/L	51.0	51.3	100	90 - 110	2014-04-09

Standard (CCV-1)

QC Batch: 111024 Date Analyzed: 2014-04-09 Analyzed By: RR

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Dissolved Sodium		1	mg/L	51.0	48.5	95	90 - 110	2014-04-09

Report Date: April 18, 2014 Work Order: 14040413 Page Number: 15 of 17

BW-28 lst Qtr. Sampling

Standard (CCV-1)

QC Batch: 111184 Date Analyzed: 2014-04-04 Analyzed By: RL

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		1	mg/L	25.0	25.0	100	90 - 110	2014-04-04

Standard (CCV-2)

QC Batch: 111184 Date Analyzed: 2014-04-04 Analyzed By: RL

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		1	mg/L	25.0	25.6	102	90 - 110	2014-04-04

Report Date: April 18, 2014 Work Order: 14040413 Page Number: 16 of 17

BW-28 lst Qtr. Sampling

Appendix

Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

Laboratory Certifications

	Certifying	Certification	Laboratory
\mathbf{C}	Authority	Number	Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704219-14-10	Lubbock

Standard Flags

- F Description
- B Analyte detected in the corresponding method blank above the method detection limit.
- H Analyzed out of hold time
- J Estimated concentration
- Jb The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
- Je Estimated concentration exceeding calibration range.
- MI1 Split peak or shoulder peak
- MI2 Instrument software did not integrate
- MI3 Instrument software misidentified the peak
- MI4 Instrument software integrated improperly
- MI5 Baseline correction
- Qc Calibration check outside of laboratory limits.
- Qr RPD outside of laboratory limits
- Qs Spike recovery outside of laboratory limits.
- Qsr Surrogate recovery outside of laboratory limits.
- U The analyte is not detected above the SDL

Result Comments

Report Date: April 18, 2014 Work Order: 14040413 Page Number: 17 of 17 BW-28 lst Qtr. Sampling

1 Reanalyzed out of hold time for confirmation.

Attachments

The scanned attachments will follow this page.

Please note, each attachment may consist of more than one page.

PIOH Turn Around Time if different from standard BioAquatic Testing 2501 Mayes Rd., Ste 100 **Carrollton, Texas 75006** Tel (972) 242-7750 WOUGS. K715NAG SQL. YJ SQLOTHO 2 Na, Ca, Mg, K, TDS, EC Circle or Specify Method CI, F, SO_{4,} NO₃-N, NO₂-N, PO₄-P, Alkalinity ANALYSIS REQUEST Moisture Content Dry Weight Basis Required Check If Special Reporting BOD, TSS, pH TRRP Report Required Pesticides 8081 / 608 PCB's 8082 / 608 200 East Sunset Rd., Suite El Paso, Texas 79922 Tel (915) 585-3443 Fax (915) 585-4944 1 (888) 588-3443 GC/MS Semi. Vol. 8270 / 625 REMARKS: GC/MS \\ \01' \ 8560 \ 654 **BCI** TCLP Pesticides TCLP Semi Volatiles TCLP Volatiles LAB USE TCLP Metals Ag As Ba Cd Cr Pb Se Hg ONLY Total Metals Ag As Ba Cd Cr Pb Se Hg 6010/200.7 5002 Basin Street, Suite A1 Midland, Texas 79703 Tel (432) 689-6301 Fax (432) 689-6313 C Log-in-Rev PAH 8270 / 625 TPH 8015 GRO / DRO / TVHC TPH 418.1 / TX1005 / TX1005 Ext(C35) Carrier # BTEX 8021/602/8260/624 COC#2 8021 / 602 / 8260 / 624 MTBE OBS COR INST COR OBS COR INST SAMPLING TIME Project Name: 1/4 SAMPLING Time: ZURYVIEN PRICENTO ENPTHY **BATE** Tel (806) 794-1296 Fax (806) 794-1298 1 (800) 378-1296 505-715-PRESERVATIVE NONE METHOD ICE Submittal of samples constitutes agreement to Terms and Conditions lister on reverse side of C. O. Sampler Signature: NaOH Company: PS2H HNO3 HCI Fax #: Received by: SCUDGE Received by: MATRIX Received by: TraceAnalysis, Inc. AIA TIOS **MATER** email: lab@traceanalysis.com Volume / Amount Time: Time: # CONTAINERS ENERGY Date: Date: FIELD CODE Project Location (including state): Company: Company: Company: (Street, City, Zip) 181 (If different from above) LAB Order ID # Relinquished by Relinquished by: Relinquished by: Company Name: Contact Person: Project #: LAB USE 元の Address: LAB#

ORIGINAL COPY

Report Date: July 24, 2014 Work Order: 14071639 Page Number: 1 of 1

Summary Report

Wayne Price

Key Energy Services-Farmington Rocky Mountain Rigs 26 Rd. 3720

P.O. Box 900

368529

Farmington, NM 87401

Report Date: July 24, 2014

Work Order: 14071639

15:04

2014-07-11

Project Location: Eunice, NM Project Name: 1/4 Sampling Project Number: BW-28

Brine

water

2014-07-10

Sample: 368528 - Fresh

Param	Flag	Result	Units	RL
Chloride		44.5	mg/L	2.5
Density		0.999	g/ml	
pH		7.81	s.u.	2
Total Dissolved Solids		432	m mg/L	2.5

Sample: 368529 - Brine

Param	Flag	Result	Units	RL
Chloride		181000	$\mathrm{mg/L}$	2.5
Density		1.20	m g/ml	
Dissolved Sodium		105000	$\mathrm{mg/L}$	1
pH		$\boldsymbol{6.85}$	s.u.	2
Total Dissolved Solids		316000	$\mathrm{mg/L}$	2.5



200 East Sunset Road, Suite E 5002 Basin Street, Suite A1 (BioAquatic) 2501 Mayes Rd., Suite 100 El Paso, Texas 79922 Midland, Texas 79703 Carrollton, Texas 75006 915 • 585 • 3443 432 • 689 • 6301 972 • 242 • 7750 FAX 915 • 585 • 4944 FAX 432 • 689 • 6313

E-Mail: lab@traceanalysis.com WEB: www.traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Wayne Price Key Energy Services-Farmington Rocky Mountain Rigs 26 Rd. 3720 P.O. Box 900 Farmington, NM, 87401

Project Location: Eunice, NM Project Name: 1/4 Sampling Project Number: BW-28

14071639

Report Date: July 24, 2014

Work Order:

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

Date

Date

			Date	111110	Date
Sample	Description	Matrix	Taken	Taken	Received
368528	Fresh	water	2014-07-10	15:16	2014-07-11
368529	Brine	water	2014-07-10	15:04	2014-07-11

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 16 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director James Taylor, Assistant Director

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Case Narrative

Samples for project 1/4 Sampling were received by TraceAnalysis, Inc. on 2014-07-11 and assigned to work order 14071639. Samples for work order 14071639 were received intact at a temperature of 3.5 C.

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

		Prep	1		Analysis
Test	Method	Batch	Date	Batch	Date
Chloride (IC)	E 300.0	96346	2014-07-23 at 14:00	113911	2014-07-23 at 15:31
Density	ASTM D854-92	96173	2014-07-17 at 10:35	113705	2014-07-17 at $10:45$
Na, Dissolved	S_{010C}	96254	2014-07-21 at 12:38	113856	2014-07-22 at $16:27$
pН	SM 4500-H+	96195	2014-07-17 at 14:34	113731	2014-07-17 at $14:34$
TDS	SM 2540C	96314	2014-07-17 at 17:00	113871	2014-07-17 at $17:00$

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 14071639 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.

Report Date: July 24, 2014 Work Order: 14071639 Page Number: 4 of 16 BW-28 1/4 Sampling Eunice, NM

Analytical Report

Sample: 368528 - Fresh

Laboratory: Lubbock

Prep Method: Analysis: Chloride (IC) Analytical Method: E 300.0 N/AQC Batch: Date Analyzed: 2014-07-23 Analyzed By: RL113911 Prep Batch: 96346 Sample Preparation: Prepared By: RL

Sample: 368528 - Fresh

Laboratory: Lubbock

Analysis: Density Analytical Method: ASTM D854-92 Prep Method: N/A QC Batch: 113705 Date Analyzed: 2014-07-17Analyzed By: CF Prep Batch: 96173 Sample Preparation: 2014-07-17 Prepared By: CF

Sample: 368528 - Fresh

Laboratory: Lubbock

Analytical Method: Prep Method: N/A Analysis: Hq SM 4500-H+QC Batch: 113731 Date Analyzed: 2014-07-17 Analyzed By: ATPrep Batch: 96195 Sample Preparation: 2014-07-17 Prepared By: AT

Sample: 368528 - Fresh

Laboratory: Lubbock

Analysis: TDS Analytical Method: SM 2540C Prep Method: N/AQC Batch: 2014-07-17 Analyzed By: RL113871 Date Analyzed: Prep Batch: Sample Preparation: Prepared By: 96314 RL

Report Date: July 24, 2014 Work Order: 14071639 Page Number: 5 of 16 BW-28 1/4 Sampling Eunice, NM

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Total Dissolved Solids		1,2,3,4,5	432	mg/L	10	2.50

Sample: 368529 - Brine

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 113911 Date Analyzed: 2014-07-23 Analyzed By: RLPrep Batch: 96346 Prepared By: Sample Preparation: RLRI

			$\kappa_{\rm L}$			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride		1,2,3,4,5	181000	$\mathrm{mg/L}$	5000	2.50

Sample: 368529 - Brine

Laboratory: Lubbock

Analysis: Density Analytical Method: ASTM D854-92 Prep Method: N/A QC Batch: 113705 Date Analyzed: 2014-07-17 Analyzed By: CF Prep Batch: 96173 Sample Preparation: 2014-07-17 Prepared By: CF

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Density			1.20	g/ml	1	0.00

Sample: 368529 - Brine

Laboratory: Lubbock

Analysis: Na, Dissolved Analytical Method: S 6010C Prep Method: S 3005A QC Batch: 113856 Date Analyzed: 2014-07-22 Analyzed By: RR
Prep Batch: 96254 Sample Preparation: 2014-07-21 Prepared By: RR

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Dissolved Sodium		2,3,4,5	105000	mg/L	1000	1.00

Report Date: July 24, 2014 Work Order: 14071639 Page Number: 6 of 16 BW-28 1/4 Sampling Eunice, NM

Sample: 368529 - Brine

Laboratory: Lubbock

Analysis: Analytical Method: SM 4500-H+Prep Method: N/AрН QC Batch: 113731 Date Analyzed: 2014-07-17 Analyzed By: ATPrep Batch: 96195 Sample Preparation: 2014-07-17 Prepared By: AT

RL

Parameter Flag Cert Result Units Dilution RL \overline{pH} 6.85 2.00 s.u. 1,2,4,5

Sample: 368529 - Brine

Laboratory: Lubbock

Analysis: TDS Analytical Method: $\rm SM~2540C$ Prep Method: N/AQC Batch: 113871Date Analyzed: 2014-07-17 Analyzed By: RLPrepared By: Prep Batch: 96314 Sample Preparation: RL

RLParameter Flag Cert Result Units Dilution RLTotal Dissolved Solids 316000 2000 2.50 1,2,3,4,5 mg/L

Report Date: July 24, 2014 Work Order: 14071639 Page Number: 7 of 16 BW-28 1/4 Sampling Eunice, NM

Method Blanks

Method Blank (1) QC Batch: 113705

QC Batch: 113705 Date Analyzed: 2014-07-17 Analyzed By: CF Prep Batch: 96173 QC Preparation: 2014-07-17 Prepared By: CF

Method Blank (1) QC Batch: 113856

QC Batch: 113856 Date Analyzed: 2014-07-22 Analyzed By: RR Prep Batch: 96254 QC Preparation: 2014-07-21 Prepared By: PM

Method Blank (1) QC Batch: 113871

QC Batch: 113871 Date Analyzed: 2014-07-17 Analyzed By: RL Prep Batch: 96314 QC Preparation: 2014-07-17 Prepared By: RL

Method Blank (1) QC Batch: 113911

QC Batch: 113911 Date Analyzed: 2014-07-23 Analyzed By: RL Prep Batch: 96346 QC Preparation: 2014-07-23 Prepared By: RL

Report Date: July 24, 2014 Work Order: 14071639 Page Number: 8 of 16 BW-28 1/4 Sampling Eunice, NM

			MDL		
Parameter	Flag	Cert	Result	Units	RL
Chloride		1,2,3,4,5	1.09	m mg/L	2.5

Report Date: July 24, 2014 Work Order: 14071639 Page Number: 9 of 16 BW-28 1/4 Sampling Eunice, NM

Duplicates

Duplicates (1) Duplicated Sample: 368450

QC Batch: 113705 Date Analyzed: 2014-07-17 Analyzed By: CF Prep Batch: 96173 QC Preparation: 2014-07-17 Prepared By: CF

RPD Duplicate Sample RPD Result Result Dilution ${\bf Limit}$ Param Units 0.997 0.996 Density g/ml 0 20

Duplicates (1) Duplicated Sample: 365547

QC Batch: 113731 Date Analyzed: 2014-07-17 Analyzed By: AT Prep Batch: 96195 QC Preparation: 2014-07-17 Prepared By: AT

RPDDuplicate Sample RPD ${\bf Limit}$ Param Result Result Dilution Units \overline{pH} 6.80 7.16 s.u. 1 20 1,2,4,5

Duplicates (1) Duplicated Sample: 368530

QC Batch: 113871 Date Analyzed: 2014-07-17 Analyzed By: RL Prep Batch: 96314 QC Preparation: 2014-07-17 Prepared By: RL

RPD Duplicate Sample Param Result Result Units Dilution RPD Limit Total Dissolved Solids 2220 2200 mg/L50 1 10 1,2,3,4,5

Report Date: July 24, 2014 Work Order: 14071639 Page Number: 10 of 16 BW-28 1/4 Sampling Eunice, NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

 QC Batch:
 113856
 Date Analyzed:
 2014-07-22

 Prep Batch:
 96254
 QC Preparation:
 2014-07-21

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Dissolved Sodium		2,3,4,5	51.5	mg/L	1	52.5	< 0.0184	98	85 - 115

Analyzed By: RR

Prepared By: PM

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

			LCSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Dissolved Sodium		2,3,4,5	50.6	mg/L	1	52.5	< 0.0184	96	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: 113871 Date Analyzed: 2014-07-17 Analyzed By: RL Prep Batch: 96314 QC Preparation: 2014-07-17 Prepared By: RL

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Total Dissolved Solids		1,2,3,4,5	1020	mg/L	10	1000	<25.0	102	90 - 110

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

			LCSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	$^{\mathrm{C}}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Dissolved Solids		1,2,3,4,5	1000	mg/L	10	1000	<25.0	100	90 - 110	2	10

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: 113911 Date Analyzed: 2014-07-23 Analyzed By: RL Prep Batch: 96346 QC Preparation: 2014-07-23 Prepared By: RL

Report Date: July 24, 2014 Work Order: 14071639 Page Number: 11 of 16 BW-28 1/4 Sampling Eunice, NM

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		1,2,3,4,5	24.3	mg/L	1	25.0	1.09	93	90 - 110

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

			LCSD			Spike	Matrix		Rec.		RPD
Param	F	$^{\mathrm{C}}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		1,2,3,4,5	24.4	mg/L	1	25.0	1.09	93	90 - 110	0	20

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

Report Date: July 24, 2014 Work Order: 14071639 Page Number: 12 of 16 BW-28 1/4 Sampling Eunice, NM

Matrix Spikes

Matrix Spike (MS-1) Spiked Sample: 366283

QC Batch: 113856 Date Analyzed: 2014-07-22 Analyzed By: RR
Prep Batch: 96254 QC Preparation: 2014-07-21 Prepared By: PM

			MS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Dissolved Sodium		2,3,4,5	888	mg/L	1	525	467	80	75 - 125

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

			MSD			Spike	Matrix		Rec.		RPD
Param	F	$^{\mathrm{C}}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Dissolved Sodium		2,3,4,5	985	mg/L	1	525	467	99	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: 368528

QC Batch: 113911 Date Analyzed: 2014-07-23 Analyzed By: RL Prep Batch: 96346 QC Preparation: 2014-07-23 Prepared By: RL

			MS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		1,2,3,4,5	184	mg/L	5	125	44.5	112	80 - 120

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

			MSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		1,2,3,4,5	177	mg/L	5	125	44.5	106	80 - 120	4	20

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

Report Date: July 24, 2014 Work Order: 14071639 Page Number: 13 of 16 BW-28 $1/4 \; {\rm Sampling} \qquad \qquad {\rm Eunice, \; NM}$

Calibration Standards

Standard (ICV-1)

QC Batch: 113731 Date Analyzed: 2014-07-17 Analyzed By: AT

				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
рΗ		1.2.4.5	s.u.	7.00	7.01	100	98 - 102	2014-07-17

Standard (CCV-1)

QC Batch: 113731 Date Analyzed: 2014-07-17 Analyzed By: AT

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
pН		1,2,4,5	s.u.	7.00	7.01	100	98 - 102	2014-07-17

Standard (ICV-1)

QC Batch: 113856 Date Analyzed: 2014-07-22 Analyzed By: RR

				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Dissolved Sodium		2,3,4,5	mg/L	51.0	51.5	101	90 - 110	2014-07-22

Standard (CCV-1)

QC Batch: 113856 Date Analyzed: 2014-07-22 Analyzed By: RR

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Dissolved Sodium		2,3,4,5	mg/L	51.0	52.8	104	90 - 110	2014-07-22

Report Date: July 24, 2014 Work Order: 14071639 Page Number: 14 of 16 $Eunice,\,NM$

BW-28 1/4 Sampling

Standard (CCV-1)

QC Batch: 113911 Analyzed By: RL Date Analyzed: 2014-07-23

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		1,2,3,4,5	mg/L	25.0	24.3	97	90 - 110	2014-07-23

Standard (CCV-2)

 $QC\ Batch:\ 113911$ Date Analyzed: 2014-07-23 Analyzed By: RL

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		1,2,3,4,5	mg/L	25.0	24.3	97	90 - 110	2014-07-23

Report Date: July 24, 2014 Work Order: 14071639 Page Number: 15 of 16 BW-28 1/4 Sampling Eunice, NM

Appendix

Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

Laboratory Certifications

	Certifying	Certification	Laboratory
\mathbf{C}	Authority	Number	Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	PJLA	L14-93	Lubbock
2	Kansas	Kansas E-10317	Lubbock
3	LELAP	LELAP-02003	Lubbock
4	NELAP	T104704219-14-10	Lubbock
5		2013-083	Lubbock

Standard Flags

- F Description
- B Analyte detected in the corresponding method blank above the method detection limit
- H Analyzed out of hold time
- J Estimated concentration
- Jb The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
- Je Estimated concentration exceeding calibration range.
- MI1 Split peak or shoulder peak
- MI2 Instrument software did not integrate
- MI3 Instrument software misidentified the peak
- MI4 Instrument software integrated improperly
- MI5 Baseline correction
- Qc Calibration check outside of laboratory limits.
- Qr RPD outside of laboratory limits
- Qs Spike recovery outside of laboratory limits.
- Qsr Surrogate recovery outside of laboratory limits.

Report Date: July 24, 2014 Work Order: 14071639 Page Number: 16 of 16 BW-28 1/4 Sampling Eunice, NM

F Description

U The analyte is not detected above the SDL

Attachments

The scanned attachments will follow this page.

Please note, each attachment may consist of more than one page.

LAB Order ID # 14071639

Page 1 of 1

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

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Report Date: February 18, 2015 Work Order: 15012704 Page Number: 1 of 1

Summary Report

Lester Waynce Price Jr. Price LLC 312 Encantado Ridge Ct. NE Rio Rancho, NM 87124

Report Date: February 18, 2015

Work Order: 15012704

Project Location: Eunice, NM Project Name: Key Eunice Brine

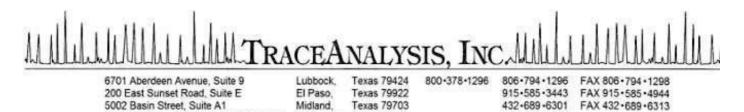
			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
385264	Fresh	water	2015-01-20	16:13	2015-01-27
385265	Brine	water	2015-01-20	16:17	2015 - 01 - 27

Sample: 385264 - Fresh

Param	Flag	Result	Units	RL
Chloride		44.1	m mg/L	2.5
Dissolved Sodium	Qs	310	m mg/L	1
pH		7.64	s.u.	2
Specific Gravity		0.9906	$\mathrm{g/ml}$	
Total Dissolved Solids		364	m mg/L	2.5

Sample: 385265 - Brine

Param	Flag	Result	Units	RL
Chloride		169000	m mg/L	2.5
Dissolved Sodium	Qs	116000	$\mathrm{mg/L}$	1
pН		7.11	s.u.	2
Specific Gravity		$\boldsymbol{1.159}$	$\mathrm{g/ml}$	
Total Dissolved Solids		238000	m mg/L	2.5



(BioAquatic) 2501 Mayes Rd., Suite 100 Carrollton, Texas 75006 972-242 •7750 E-Mail: lab@traceanalysis.com WEB: www.traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Lester Waynce Price Jr. Price LLC 312 Encantado Ridge Ct. NE Rio Rancho, NM, 87124

Project Location: Eunice, NM
Project Name: Key Eunice Brine
Project Number: Key Eunice Brine

ocation: Eunice, NM

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

			Date	111116	Date
Sample	Description	Matrix	Taken	Taken	Received
385264	Fresh	water	2015-01-20	16:13	2015-01-27
385265	Brine	water	2015-01-20	16:17	2015-01-27

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 17 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director James Taylor, Assistant Director Brian Pellam, Operations Manager

Report Date: February 18, 2015

15012704

Work Order:

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Analytical Report Sample 385264 (Fresh)	4 5
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QC Batch 118979 - LCS (1) QC Batch 119127 - LCS (1) QC Batch 119181 - LCS (1) QC Batch 119429 - LCS (1) Matrix Spikes	13
QC Batch 119429 - MS (1)	13 13
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Report Definitions	

Case Narrative

Samples for project Key Eunice Brine were received by TraceAnalysis, Inc. on 2015-01-27 and assigned to work order 15012704. Samples for work order 15012704 were received intact at a temperature of 0.2 C.

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

		Prep	Prep	QC	Analysis
Test	Method	Batch	Date	Batch	Date
Chloride (IC)	E 300.0	101000	2015-02-17 at 15:00	119429	2015-02-17 at 16:06
Na, Dissolved	S 6010C	100546	2015-01-27 at 17:40	119127	2015-02-06 at $09:23$
pН	SM 4500-H+	100544	2015-01-27 at 04:00	118893	2015-01-27 at $16:44$
Specific Gravity	ASTM D1429-95	100533	2015-01-27 at 13:00	118885	2015-01-27 at $13:10$
TDS	SM 2540C	100618	2015-01-28 at 12:10	118979	2015-01-28 at 12:10
TDS	SM 2540C	100787	2015-02-02 at 09:00	119181	2015-02-02 at $17:00$

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 15012704 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.

Report Date: February 18, 2015 Work Order: 15012704 Page Number: 4 of 17 Key Eunice Brine Eunice, NM

Analytical Report

Sample: 385264 - Fresh

Laboratory: Lubbock

Prep Method: Analysis: Chloride (IC) Analytical Method: E 300.0 N/AQC Batch: 119429 Date Analyzed: 2015-02-17 Analyzed By: RLPrep Batch: 101000 Sample Preparation: Prepared By: RL

Sample: 385264 - Fresh

Laboratory: Lubbock

Analysis: Na, Dissolved Analytical Method: S 6010C Prep Method: S 3005A QC Batch: 119127 Date Analyzed: 2015-02-06 Analyzed By: RRPrep Batch: 100546 Sample Preparation: 2015-01-27 Prepared By: RR

Sample: 385264 - Fresh

Laboratory: Lubbock

Analytical Method: Prep Method: N/A Analysis: На SM 4500-H+QC Batch: 118893 Date Analyzed: 2015-01-27 Analyzed By: ATPrep Batch: 100544 Sample Preparation: 2015-01-27 Prepared By: AT

Sample: 385264 - Fresh

Laboratory: Lubbock

Analysis: Specific Gravity Analytical Method: ASTM D1429-95 Prep Method: N/AQC Batch: Analyzed By: CF 118885 Date Analyzed: 2015-01-27 Prep Batch: 100533 Sample Preparation: 2015-01-27 Prepared By: CF

Report Date: February 18, 2015 Key Eunice Brine Work Order: 15012704 Key Eunice Brine Page Number: 5 of 17

Eunice, NM

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Specific Gravity			0.9906	g/ml	1	0.000

Sample: 385264 - Fresh

Laboratory: Lubbock

Analysis: TDS Analytical Method: SM 2540C Prep Method: N/A QC Batch: 119181 Date Analyzed: 2015-02-02 Analyzed By: RL Prep Batch: 100787 Sample Preparation: Prepared By: RL

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Total Dissolved Solids		1,2,3,4,5	364	$\mathrm{mg/L}$	10	2.50

Sample: 385265 - Brine

Laboratory: Lubbock

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride		1,2,3,4,5	169000	mg/L	5000	2.50

Sample: 385265 - Brine

Laboratory: Lubbock

Analysis: Na, Dissolved Analytical Method: S 6010CPrep Method: S 3005A Analyzed By: QC Batch: 119127 Date Analyzed: 2015-02-06 RRPrep Batch: 100546 Sample Preparation: 2015-01-27 Prepared By: RR

			$\kappa_{ m L}$			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Dissolved Sodium	Qs	2,3,4,5	116000	m mg/L	1000	1.00

Sample: 385265 - Brine Laboratory: Lubbock Analytical Method: Analysis: рН SM 4500-H+Prep Method: N/AQC Batch: 118893 Date Analyzed: 2015-01-27 Analyzed By: ATPrep Batch: 100544 Sample Preparation: 2015-01-27 Prepared By: ATRLParameter Flag Cert Result Units Dilution RL \overline{pH} 7.112.00 s.u. 1,2,4,5 Sample: 385265 - Brine Laboratory: Lubbock Analysis: Specific Gravity Analytical Method: ASTM D1429-95 Prep Method: N/AQC Batch: 118885 CF Date Analyzed: 2015-01-27Analyzed By: Prep Batch: 100533 Sample Preparation: 2015-01-27 Prepared By: CFRLParameter Flag Cert Result Units Dilution RL0.000 Specific Gravity 1.159g/ml 1 **Sample: 385265 - Brine** Laboratory: Lubbock Analysis: TDS Analytical Method: $\rm SM~2540C$ Prep Method: N/AQC Batch: 118979 Date Analyzed: 2015-01-28 Analyzed By: RLPrep Batch: 100618 Sample Preparation: Prepared By: RLRLParameter Flag Cert Result Units Dilution RL

1,2,3,4,5

238000

mg/L

2000

2.50

Work Order: 15012704

Key Eunice Brine

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Eunice, NM

Report Date: February 18, 2015

Key Eunice Brine

Total Dissolved Solids

Report Date: February 18, 2015 Work Order: 15012704 Page Number: 7 of 17 Key Eunice Brine Eunice, NM

Method Blanks

Method Blank (1) QC Batch: 118885

QC Batch: 118885 Date Analyzed: 2015-01-27 Analyzed By: CF Prep Batch: 100533 QC Preparation: 2015-01-27 Prepared By: CF

Method Blank (1) QC Batch: 118979

QC Batch: 118979 Date Analyzed: 2015-01-28 Analyzed By: RL Prep Batch: 100618 QC Preparation: 2015-01-28 Prepared By: RL

Method Blank (1) QC Batch: 119127

QC Batch: 119127 Date Analyzed: 2015-02-06 Analyzed By: RR Prep Batch: 100546 QC Preparation: 2015-01-27 Prepared By: PM

Method Blank (1) QC Batch: 119181

QC Batch: 119181 Date Analyzed: 2015-02-02 Analyzed By: RL Prep Batch: 100787 QC Preparation: 2015-02-02 Prepared By: RL

Report Date: February 18, 2015

Work Order: 15012704 Key Eunice Brine

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Key Eunice Brine

2015 - 02 - 17

2015 - 02 - 17

Eunice, NM

			MDL		
Parameter	Flag	Cert	Result	Units	RL
Total Dissolved Solids		1,2,3,4,5	<25.0	$\mathrm{mg/L}$	2.5

Method Blank (1) QC Batch: 119429

QC Batch: 119429Date Analyzed: Prep Batch: 101000 QC Preparation: Analyzed By: RL Prepared By: RL

RL

2.5

MDL ${\bf Parameter}$ Flag Cert Result Units $\overline{\text{Chloride}}$ 0.797 mg/L1,2,3,4,5

Report Date: February 18, 2015 Work Order: 15012704 Page Number: 9 of 17 Key Eunice Brine Eunice, NM

Duplicates

Duplicates (1) Duplicated Sample: 385269

QC Batch: 118885 Date Analyzed: 2015-01-27 Analyzed By: CF

Prep Batch: 100533 QC Preparation: 2015-01-27 Prepared By: CF

	Duplicate	Sample				RPD
Param	Result	Result	Units	Dilution	RPD	Limit
Specific Gravity	1.074	1.072	g/ml	1	0	200

Duplicates (1) Duplicated Sample: 385269

QC Batch: 118893 Date Analyzed: 2015-01-27 Analyzed By: AT Prep Batch: 100544 QC Preparation: 2015-01-27 Prepared By: AT

Duplicate Sample RPD RPD Result Dilution Limit Param Result Units \overline{pH} 6.79 6.78 s.u. 1 0 20 1,2,4,5

Duplicates (1) Duplicated Sample: 385486

QC Batch: 118979 Date Analyzed: 2015-01-28 Analyzed By: RL Prep Batch: 100618 QC Preparation: 2015-01-28 Prepared By: RL

RPDDuplicate Sample Param Result Result Units Dilution RPD Limit Total Dissolved Solids 923 904 mg/L10 10 1,2,3,4,5

Duplicates (1) Duplicated Sample: 385552

QC Batch: 119181 Date Analyzed: 2015-02-02 Analyzed By: RL Prep Batch: 100787 QC Preparation: 2015-02-02 Prepared By: RL

Report Date: February 18, 2015 Key Eunice Brine

Work Order: 15012704 Key Eunice Brine

Page Number: 10 of 17 Eunice, NM

		Duplicate	Sample				RPD
Param		Result	Result	Units	Dilution	RPD	Limit
Total Dissolved Solids	1,2,3,4,5	219000	219000	mg/L	2000	0	10

Report Date: February 18, 2015 Work Order: 15012704 Page Number: 11 of 17 Key Eunice Brine Eunice, NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 118979 Date Analyzed: 2015-01-28 Analyzed By: RL Prep Batch: 100618 QC Preparation: 2015-01-28 Prepared By: RL

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Total Dissolved Solids		1,2,3,4,5	996	mg/L	10	1000	<25.0	100	90 - 110

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

			LCSD			Spike	Matrix		Rec.		RPD
Param	F	$^{\mathrm{C}}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Dissolved Solids		1,2,3,4,5	984	mg/L	10	1000	<25.0	98	90 - 110	1	10

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: 119127 Date Analyzed: 2015-02-06 Analyzed By: RR Prep Batch: 100546 QC Preparation: 2015-01-27 Prepared By: PM

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Dissolved Sodium		2,3,4,5	56.0	$_{ m mg/L}$	1	52.5	< 0.0184	107	85 - 115

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

			LCSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Dissolved Sodium		2,3,4,5	57.2	mg/L	1	52.5	< 0.0184	109	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: 119181 Date Analyzed: 2015-02-02 Analyzed By: RL Prep Batch: 100787 QC Preparation: 2015-02-02 Prepared By: RL

Report Date: February 18, 2015

Key Eunice Brine

Total Dissolved Solids

Work Order: 15012704 Key Eunice Brine

 $\overline{\mathrm{mg/L}}$

10

1000

< 25.0

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100

Eunice, NM

90 - 110

-									
			T 00			G 11	3.5		D
			LCS			$_{ m Spike}$	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit

998

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

			LCSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Dissolved Solids		1,2,3,4,5	992	mg/L	10	1000	<25.0	99	90 - 110	1	10

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: 119429 Date Analyzed: 2015-02-17 Analyzed By: RL Prep Batch: 101000 QC Preparation: 2015-02-17 Prepared By: RL

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		1,2,3,4,5	24.2	mg/L	1	25.0	0.797	94	90 - 110

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

			LCSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		1,2,3,4,5	24.4	mg/L	1	25.0	0.797	94	90 - 110	1	20

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

Report Date: February 18, 2015 Work Order: 15012704 Page Number: 13 of 17 Key Eunice Brine Eunice, NM

Matrix Spikes

Matrix Spike (xMS-1) Spiked Sample: 385041

QC Batch: 119127 Date Analyzed: 2015-02-06 Analyzed By: RR
Prep Batch: 100546 QC Preparation: 2015-01-27 Prepared By: PM

			MS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Dissolved Sodium		2,3,4,5	1660	mg/L	1	525	1210	86	75 - 125

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

				MSD			Spike	Matrix		Rec.		RPD
Param		\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Dissolved Sodium	Qs	Qs	2,3,4,5	1580	mg/L	1	525	1210	70	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: 385174

QC Batch: 119429 Date Analyzed: 2015-02-17 Analyzed By: RL Prep Batch: 101000 QC Preparation: 2015-02-17 Prepared By: RL

			MS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		1,2,3,4,5	2750	mg/L	100	2500	362	96	80 - 120

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

			MSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		1,2,3,4,5	2740	mg/L	100	2500	362	95	80 - 120	0	20

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

Report Date: February 18, 2015 Work Order: 15012704 Page Number: 14 of 17 Key Eunice Brine Eunice, NM

Calibration Standards

Standard (ICV-1)

QC Batch: 118893 Date Analyzed: 2015-01-27 Analyzed By: AT

				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
На		1.2.4.5	s.u.	7.00	7.01	100	98.6 - 101.4	2015-01-27

Standard (CCV-1)

QC Batch: 118893 Date Analyzed: 2015-01-27 Analyzed By: AT

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
pН		1,2,4,5	s.u.	7.00	7.01	100	98.6 - 101.4	2015-01-27

Standard (ICV-1)

QC Batch: 119127 Date Analyzed: 2015-02-06 Analyzed By: RR

				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Dissolved Sodium		2,3,4,5	mg/L	51.0	51.7	101	90 - 110	2015-02-06

Standard (CCV-1)

QC Batch: 119127 Date Analyzed: 2015-02-06 Analyzed By: RR

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Dissolved Sodium		2,3,4,5	mg/L	51.0	55.9	110	90 - 110	2015-02-06

Report Date: February 18, 2015 Work Order: 15012704 Page Number: 15 of 17 Key Eunice Brine Eunice, NM

Standard (CCV-1)

QC Batch: 119429 Date Analyzed: 2015-02-17 Analyzed By: RL

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		1,2,3,4,5	mg/L	25.0	24.3	97	90 - 110	2015-02-17

Standard (CCV-2)

QC Batch: 119429 Date Analyzed: 2015-02-17 Analyzed By: RL

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		1,2,3,4,5	mg/L	25.0	24.3	97	90 - 110	2015-02-17

Report Date: February 18, 2015 Work Order: 15012704 Page Number: 16 of 17 Key Eunice Brine Eunice, NM

Appendix

Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

Laboratory Certifications

	Certifying	Certification	Laboratory
\mathbf{C}	Authority	Number	Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	PJLA	L14-93	Lubbock
2	Kansas	Kansas E- 10317	Lubbock
3	LELAP	LELAP-02003	Lubbock
4	NELAP	T104704219-14-10	Lubbock
5		2014-018	Lubbock

Standard Flags

- F Description
- B Analyte detected in the corresponding method blank above the method detection limit
- H Analyzed out of hold time
- J Estimated concentration
- Jb The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
- Je Estimated concentration exceeding calibration range.
- MI1 Split peak or shoulder peak
- MI2 Instrument software did not integrate
- MI3 Instrument software misidentified the peak
- MI4 Instrument software integrated improperly
- MI5 Baseline correction
 - Qc Calibration check outside of laboratory limits.
 - Qr RPD outside of laboratory limits
 - Qs Spike recovery outside of laboratory limits.
- Qsr Surrogate recovery outside of laboratory limits.

Report Date: February 18, 2015 Work Order: 15012704 Page Number: 17 of 17 Key Eunice Brine Eunice, NM

F Description

U The analyte is not detected above the SDL

Attachments

The scanned attachments will follow this page.

Please note, each attachment may consist of more than one page.

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: PRICE LLC Phone #: 505-892-6643											13	T	ANALYSIS REQUEST (Circle or Specify Method No.)																							
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Contact Per	son:	IALLE	~ /	001	5	-	70	E-n	nail:	()	1 1	W) .		0-	2011-	10					7.00										Alkalinity		0		pu	
Invoice to:	LESIER K	MANE	1	RI	1	0	14			WH	11	14.1	CE	di	3 (2 HOT	MAIL	0		Ext(C35)		6010/200	Se Hg			1						Alka	S. L. S.	2		ande	
(If different	from above)	CA	E	RIG	14) X		n 60										ب	1	2000		n ste	
Project #:	NA		9				-	Pro	ject	Nam	e:	()	UI	Œ	BRI	WELL	8260 / 624	624	TX1005 E	VHC	Se Ho	Cr Pb					625				I, PO ₄	1	75		nt fron	
Project Loca	ation (including state):	JUNIC	E	N	V	""		Sai	nple	r Sig	natu	ıre:	4	U	POR		8260	3260 /	/TX1	1/0	Cd Cr Pb	3a Cd				624	270 / 6		20		NO2-N, I	EC			Jiffere	
			SS SS	runt		MA	TRIX	(RVA THO			SAME	LING	/ 602	602 / 8	TX1005	O / DF	Ba	Ag As		latiles	es	-	Vol. 82	308	209 / 1	ent	3-N, N	, TDS,			me if	
LAB # (LAB USE) ONLY	FIELD CODE		# CONTAINERS	Volume / Amount	WATER	SOIL	AIR	SCODGE	HCI	HNO ₃	H ₂ SO₄	NaOH	NONE		DATE	TIME	MTBE 8021	00	TPH 418.1 / T	TPH 8015 GRO / DRO / TVHC	Total Metals Ad As	TCLP Metals Ag As Ba Cd Cr Pb	TCLP Volatiles	TCLP Semi Volatiles	ICLP Pesticides	GC/MS Vol. 8260	GC/MS Semi. Vol. 8270 /	PCB's 8082 / 608	ROD TSS nH	Moisture Content	CI, F, SO4, NO3-N,	Na, Ca, Mg, K, TDS,	言語	*	Turn Around Time if different from standard	PloH
385244	FRESH		1	Hadi	X							X			1/ants	4:130	1																X			
265	BRING		1	14.49	X							X			1/20/15	4111	A															9	XX			
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Relinquishe	ed by: Company:	Date:	Ti	ime:	RE	Ceiv	ed by	/: 	Co	ompa	any:	27	Date	-	Time: 9/5	OBS COR	1	RE	3	og-in-	Revie	w.¥	r]1	Chec	Re k lf S	port I	sis Re Requi al Rep ded	red							
Submittal of	samples constitutes agree	ment to Ter	rms ar	nd Cond	ditio	ns lis	tedo	n rev	erse	side	e of	C. O.	C.				С	arrier	#_	1	/ <	Ŝ	Z	5	SC) 2	11:	31	15	~						

Appendix C- Area of Review

- AOR Well Status List
- AOR Aerial Map

2014 BW-28 AOR Review-- Well Status List

up-dated April 26, 2015

								Within 1/4 mi AOR		Casing Program	Cased/Cemented	Corrective Action
	API#	Well Name	UL	Section	Ts	Rg	Footage	* within 800 ft		Checked	across salt section	Required
						9						
1	<u>30-025-33547</u>	Key-State no.001	<u>E</u>	<u>15</u>	21s	37e	1340 FNL & 330 FWI	. NA		NA		
1	30-025-06591	Apache NEDU 604	E	15	21s	37e	2310 FNL & 990 FWL	yes	1	no	Will check if critical radius approaches	Will check if critical radius approaches
1	30-025-09913 (P&A)	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	Е	15	21s	37e	2580 FNL & 1300 FWL	no		na	na	na
0	30-025-37223 Never Drilled **	Apache NEDU 628	F	15	21s	37e	1410 FNL & 380 FWL	Never Drilled	0 0	na	na	na
1	30-025-41600 (in Production 2014)	Apache NEDU 544	F	15	21s	37e	1355 FNL &1190 FWL	yes	0 1	Yes	yes	no
'n	30-025-42237 (proposed)	Apache NEDU 648	F	15	21s	37e	1640 FNL & 1300 FWL	yes	0 1	na	na	na
	30-023-42237 (proposed)	Apacite NEDO 040		13	213	370	1040 TNE & 1300 TWE	yes	0 1	TIG.	Tid.	TIG .
1	30-025-06609	Chevron St. 002	С	15	21s	37e	660 FNL & 1980 FWL	no		na	na	na
1	30-025-06611	Chevron St. 004	С	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	Ċ	15	21s	37e	1229 FNL & 2498 FWL	no		na	na	na
· i	30-025-34886	Apache NEDU 524	Č	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	Will check if critical radius approaches	Will check if critical radius approaches
1	30-025-34887	Apache NEDU 624	c	15	21s	37e	1250 FNL & 1368 FWL	yes	1	no	Will check if critical radius approaches	Will check if critical radius approaches
1	30-025-41485	Brammer Engr. St No 12	c	15	21s 21s	37e	990 FNL & 1330 FWL		1	Ves+++		
1	30-025-41583		c	15		37e	1240 FNL & 1930 FWL	yes			yes	no
		Apache NEDU 661			21s			no		na	na	na
1	30-025-41598	Apache NEDU 558	С	15	21s	37e	150 FNL & 2295 FWL	no		na	na	na
1	30-025-06586	Chevron St. 001	D	15	21s	37e	660 FNL & 660 FWL	yes*	1 1	yes	yes	no
1	30-025-06612	Chevron St. 005	D	15	215	37e	660 FNL & 990 FWL	yes	1	yes	yes	no
1	30-025-06612	Apache NEDU 601	D	15	21s 21s	37e	600 FNL & 990 FWL		1			
1								yes	1	yes	yes	no
1	30-025-36809	Apache NEDU 526	D	15	21s	37e	130 FNL & 330 FWL	yes	1	no	Will check if critical radius approaches	Will check if critical radius approaches
1	30-025-06585	Apache St. 002	F	15	21s	37e	1980 FNL & 1980 FWL	no		na	na	na
· i	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	30-025-00370	Apache NEDU 650	F	15	21s	37e	2550 FNL & 1925 FWL	no		na	na	na
1			F	15	21s	37e	1710 FNL & 2360 FWL	no		na	na	
	30-025-42236 New	Apache NEDU 647	r	15	218	37e	1710 FNL & 2360 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 21s	37e	2540 FSL & 2482 FWL	no		na	na	na
	30-025-34657	Apache NEDO 623		15	215	376	2340 F3L & 2462 FWL	110		Hd	lld	Ha
1	30-025-06606	Apache Argo 010		15	21s	37e	1880 FSL & 760 FWL	no		na	na	na
1	30-025-09915	Apache Argo 007	ī	15	21s	37e	2310 FSL & 990 FWL	no		na	na	na
1	30-025-09916	Apache NEDU 701	ī	15	21s	37e	1980 FSL & 660 FWL	no		na	na	na
1	30-025-34888	Apache NEDU 713	Ī	15	21s	37e	1330 FSL & 1142 FWL	no		na	na	na
1	30-025-34666	Apache NEDU 713 Apache NEDU 629	i.	15	21s 21s	37e	2630 FSL & 330 FWL	yes	1	no	Will check if critical radius approaches	Will check if critical radius approaches
0	30-025-42232 Proposed	Apache NEDU 639	1	15	21s	37e	1960 FSL & 740 FWL	no	'	na	na	na
U	30-023-42232 F10p0sed	Apacile NEDO 039		10	213	376	1700 13L & 740 FWL	TIU		Ha	i i a	i i d
1	30-025-06623	Apache WBDU 057	А	16	21s	37e	660 FNL & 660 FEL	yes	1	no	Will check if critical radius approaches	Will check if critical radius approaches
i	30-025-25198	Chevron HLNCT 006	A	16	21s	37e	330 FNL & 600 FEL	no		no	na	na
1	30-025-39277	Apache WBDU 113	A	16	21s	37e	1290 FNL & 330 FEL	yes*	1 1	yes	yes	no
	30-023-37277	Apaciic WDD0 173	Α.	- 10	213	370	. 2.0 THE & 330 TEE	yes	- ' '	yes	yes	no .
1	30-025-06621	Apache WBDU 056	Н	16	21s	37e	1980 FNL & 660 FEL	yes	1	no	Will check if critical radius approaches	Will check if critical radius approaches
1	30-025-06624	Chevron HLNCT 005	H	16	21s	37e	2310 FNL & 330 FEL	yes	1	no	Will check if critical radius approaches	Will check if critical radius approaches
1	30-025-36741	Chevron HLNCT 007	Н.	16	21s	37e	1330 FNL & 1070 FEL	no		na	na	na
1	30-025-3741	Chevron HLNCT 008	H	16	21s	37e	2310 FNL & 030 FEL	yes	1	no	Will check if critical radius approaches	Will check if critical radius approaches
	00 020 0700 1	3.10.1.01.1.1.10.1.000	- '		2.5	0,0		J 05			The second of th	220k ii orkioai radias approactics
1	30-025-06617	Apache St. DA 005	- 1	16	21s	37e	1980 FSL & 330 FEL	no		na	na	na
1	30-025-06619	Apache WBDU078	- 1	16	21s	37e	1980 FSL & 660 FEL	no		na	na	na
1	30-025-37916	Apache St. DA 013	1	16	21s	37e	1650 FSL & 780 FEL	no		na	na	na
		·										
									4 10			

⁴⁵ Total # of wells in adjacent quarter-sections

Notes:

* Means the well is within the calculated Critical outside radius of the brine well and casing program will be checked annually.

The Critical Radius of Review is 10x the calculated brine well radius.

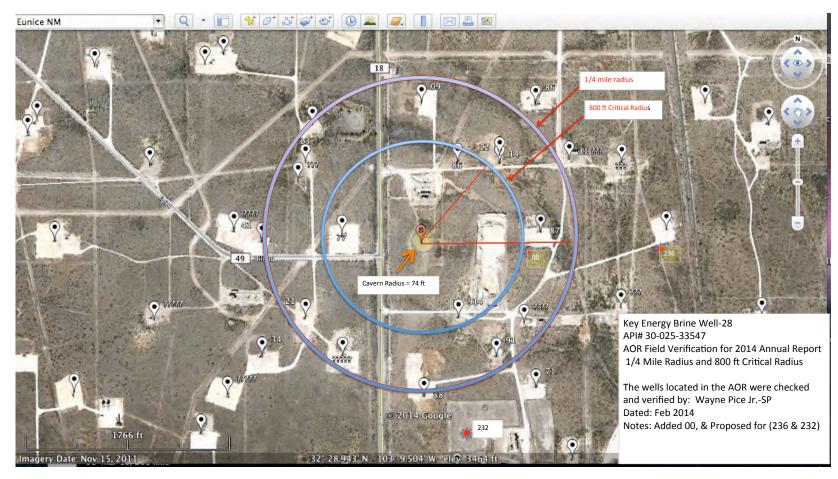
2014- 600 & 913 were not actually in Critical radius and was removed until radius encludes them.

¹⁸ Total # of wells in 1/4 mile AOR

⁴ Total # of wells that are or have become within 800 ft of the outside radius of the brine well.

^{**} API # 30-025-37223 not drilled too close to Brine Well

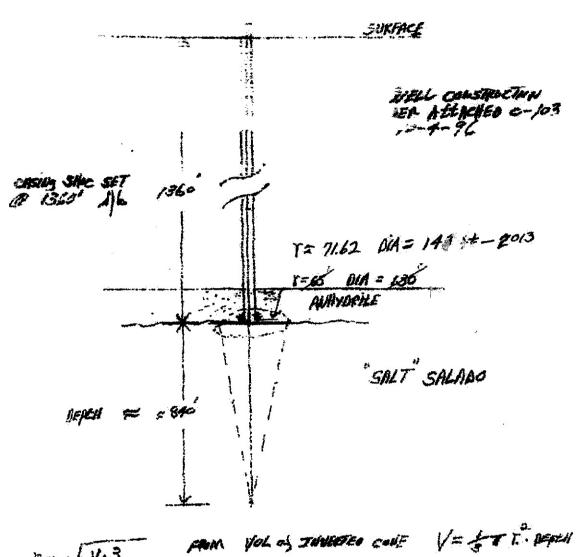
[&]quot;+++checked casing 1000 sks for 714 ft3 ok between 7-5/8 and 5.5 covers salt section



Field Notes: Last two or three well digits are the last number for the Well API#.

Appendix D-

- Cavity Calculations
- Cavern Well Bore C-103



T= VI340 FRM VOLOS TANGORO CONF V= \$T 1. DEPEN

$$T = \sqrt{\frac{4.51 \times .06 \times}{17.840}}$$

$$T = 71.62 \text{ St}$$

$$J = 143 \text{ St}$$

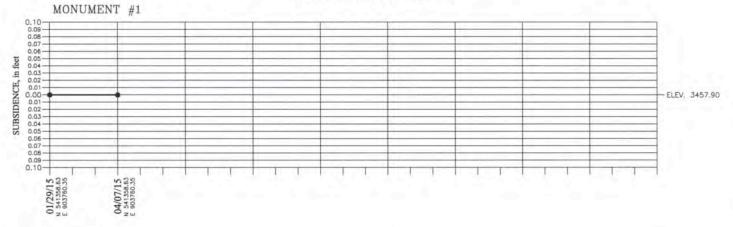
$$A = 1360 \text{ St}$$

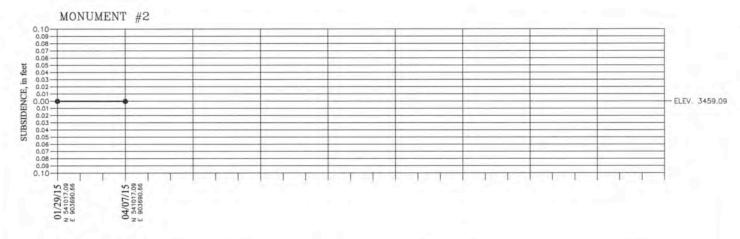
$$J = 105$$

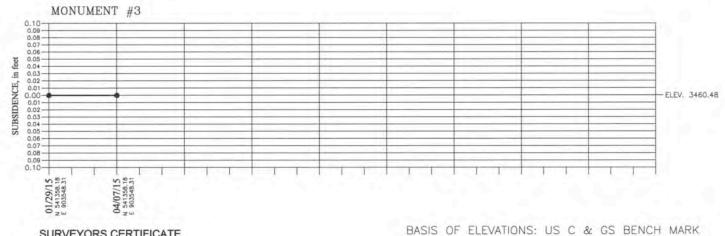
Appendix E- Subsidence Reports

VERTICAL SUBSIDENCE TABLE KEY ENERGY SERVICES, LLC. - STATE #1

NEW MEXICO EAST NAD 83







SURVEYORS CERTIFICATE

I, TERRY J. ASEL, NEW MEXICO PROFESSIONAL SURVEYOR I, TERRY J. ASEL, NEW MEXICO PROFESSIONAL SURVEYOR
NO. 15079, DO HEREBY CERTIFY THAT I CONDUCTED AND AM
RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS MEXIC
TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND MEETS THE "MINIMIUM STANDARDS FOR

SURVEYING IN NEW MEXICO* AS ADOPTED BY THE NEW 15079 MEXICO STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND SURVEYORS

POFESSIONAL erry J. Asel N.M. R.P.L.S. No. 15079

Asel Surveying

P.O. BOX 393 - 310 W. TAYLOR HOBBS, NEW MEXICO - 575-393-9146 "L-98 1935" - CV0320 ELEV. = 3434.37

ENERGY SERVICES, LLC.

SUBSIDENCE MONITORING FOR THE KEY ENERGY SERVICES, LLC. - STATE #1 WELL IN SECTION 15, TOWNSHIP 21 SOUTH, RANGE 37 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO

Survey Date: 04/07/15	Sheet 1 of 1 Sheets
W.O. Number: 150129MS-b	Drawn By: KA Rev:
Date: 04/28/15	150129MS-b Scale:1"=1000'

Appendix F – Closure Cost Estimate

Appendix "F"

2014 Annual Report BW-28 Key Energy Closure Cost

Key Energy Rig \$25,000

Halliburton Cement Job \$7,500.00

Post Subsidance Monitoring 5 y \$15,000.00

Tank Removal, Pad Clean-Up \$25,000.00

Consulting fees \$15,000.00

Total Estimate \$87,500

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD

Wednesday, November 18, 2009 7:02 AM Sent:

'Prather, Steve'; 'gandy2@leaco.net'; 'James Millett'; 'Clay Wilson'; 'Bob Patterson'; 'David To:

Pyeatt'; 'garymschubert@aol.com'; 'Gary Schubert'

Griswold, Jim, EMNRD; VonGonten, Glenn, EMNRD; Sanchez, Daniel J., EMNRD Cc: UIC Class III Well Annual Report Schedule for Submittal & Content REMINDER- 2010

Subject:

Annual Reports 2010.xls Attachments:

Gentlemen:

Good morning. You may recall an e-mail message from me this past Summer alerting you to the reporting provision of your current discharge permit (permit) and how the New Mexico Oil Conservation Division (OCD) is stepping up its efforts to track reporting under issued permits.

Please find attached a spreadsheet listing the dates that OCD expects to receive your Annual Reports and/or any reporting requirements from your permit. If you are an operator with limited reporting requirements based on your permit, you are welcome to follow the format and content required from more recent permit renewals issued by the OCD, which are more comprehensive and constitute a report, Any renewed permits will likely require similar content anyway.

Please plan on meeting the Annual Report submittal dates in January of 2010 as failure to submit the report will constitute a violation under the Federal Underground Injection Control (UIC) Program and reporting to the United States Environmental Protection Agency, which could result in the shut-in and/or plug and abandonment of your brine production well.

Please contact me if you have questions. Thank you in advance for your cooperation in this matter.

Carl J. Chavez, CHMM New Mexico Energy, Minerals & Natural Resources Dept. Oil Conservation Division, Environmental Bureau 1220 South St. Francis Dr., Santa Fe, New Mexico 87505

Office: (505) 476-3490 Fax: (505) 476-3462

E-mail: CarlJ.Chavez@state.nm.us

Website: http://www.emnrd.state.nm.us/ocd/index.htm (Pollution Prevention Guidance is under "Publications")

CC: Brine Well File "Annual Reporting"

NMOCD UIC Annual Reports

Annual Report Contents 31 of each Submitted Annual Rpt. Due Date 01/31/10 11/18/09 Basic Energy Operator Permit ID **BW-2**

.. Annual Report: All operators shall submit an annual report due on January

year. The report shall include the following information:

1. Cover sheet marked as "Annual Brine Well Report, name of operator,

permit #, API# of well(s), date of report, and person submitting report.

2. Brief summary of brine wells operations including description and reason for

any remedial or major work on the well. Copy of C- 103.

3. Production volumes as required above in 21.6. including a running total should

be carried over to each year. The maximum and average injection pressure.

4. A copy of the chemical analysis as required above in 21.1-1.

5. A copy of any mechanical integrity test chart, including the type of test,

open to formation or easing test.

6. Brief explanation describing deviations from normal production methods.

7. A copy of any leaks and spills reports.

8. If applicable, results of any groundwater monitoring.

9. Information required from cavity/subsidence 21.F. above.

10. An Area of Review (AOR) summary.

11. Sign-off requirements pursuant to WQCC Subsection G 20.6.2.5101.

01/31/10
Gandy Corp.
BW-4

L. Annual Report: All operators shall submit an annual report due on January 31 of each

year. The report shall include the following information:

 Cover sheet marked as "Annual Brine Well Report, name of operator, BW permit #, API# of well(s), date of report, and person submitting report.

 Brief summary of brine wells operations including description and reason for

any remedial or major work on the well. Copy of C- 103.

3. Production volumes as required above in 21.G. including a running total should

be carried over to each year. The maximum and average injection pressure.

4. A copy of the chemical analysis as required above in 21.1-1.

5. A copy of any mechanical integrity test chart, including the type of test,

open to formation or easing test.

Brief explanation describing deviations from normal production methods.

7. A copy of any leaks and spills reports.

8. If applicable, results of any groundwater monitoring.

9. Information required from cavity/subsidence 21.F. above.

10. An Area of Review (AOR) summary.

11. Sign-off requirements pursuant to WQCC Subsection G 20.6.2.5101.

Mo. w/ Qtly Rpts.

PAB- Salty Dog

BW-8

L. Annual Report: All operators shall submit an annual report due on January31 ofeach year. The report shall include the following information:	 Cover sheet marked as "Annual Brine Well Report, name of operator, BW permit #, API# of well(s), date of report, and person submitting report. Brief summary of brine wells operations including description and reason for any remedial or major work on the well. Copy of C-103. Production volumes as required above in 21. G. including a running total should be carried over to each year. The maximum and average injection pressure. A copy of the chemical analysis as required above in 21.H. A copy of any mechanical integrity test chart, including the type of test, i.e. open to formation or casing test. Brief explanation describing deviations from normal production methods. 	 A copy of any leaks and spills reports. If applicable, results of any groundwater monitoring. Information required from cavity/subsidence 21.F. above. An Area of Review (AOR) summary. Sign-off requirements pursuant to WQCC Subsection G 20.6.2.5101. 	 Production/Injection Volumes/Annual Report: The volumes of fluids injected (fresh water) and produced (brine) will be recorded monthly and submitted to the OCD
01/31/10			01/31/10
Gandy Corp.			Basic Energy
BW-22			BW-25

report due on the thirty-first (31) day of January of each year.

Santa Fe Office in an annual

BW-27	Mesquite	01/01/10	7. Production/
			water) and prod
			(brine) will b
			Office in an ann
			report due o
BW-28	BW-28 ey Ernergy Services LI	01/31/10	L. Annual Report

- 7. Production/Injection Volumes: The volumes of fluids injected (fresh water) and produced
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3. Production volumes as required above in 21 .G. including a running total should

be carried over to each year. The maximum and average injection pressure.

- 4. A copy of the chemical analysis as required above in 21.H.
- 5. A copy of any mechanical integrity test chart, including the type of test, i.e.

open to formation or casing test.

- Brief explanation describing deviations from normal production methods.
- 7. A copy of any leaks and spills reports.
- 8. If applicable, results of any groundwater monitoring.
- 9. Information required from cavity/subsidence 21.F. above.
- 10. An Area of Review (AOR) summary.
- 11. Sign-off requirements pursuant to WQCC Subsection G 20.6.2.5101.

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01/31/10		01/31/10
Liquid Resources		HRC- Schubert
BW-30		BW-31

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Santa Fe Office in

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD

Sent: Friday, September 25, 2009 1:48 PM

To: 'Prather, Steve'; 'gandy2@leaco.net'; 'James Millett'; 'Clay Wilson'; 'Bob Patterson'; 'Blevins,

Sam'; 'David Pyeatt'; 'garymschubert@aol.com'

Cc: Sanchez, Daniel J., EMNRD; VonGonten, Glenn, EMNRD; Griswold, Jim, EMNRD; Jones,

William V., EMNRD

Subject: New Mexico Oil Conservation Division Class III Solution Mining Well Operator Notice--

ANNUAL REPORTS

Gentlemen:

Re: Annual Reporting

You are receiving this message because you are currently operating a Underground Injection Control (UIC) Class III Solution Mining Well in New Mexico under an Oil Conservation Division (OCD) Discharge Permit. You may be aware of the most recent events related to OCD Class III Wells in New Mexico and can find out more by visiting the OCD's Webste at http://www.emnrd.state.nm.us/imaging/AEOrderFileView.aspx?appNo=pCJC0906359521.

The OCD is writing to inform you that it will be monitoring the receipt of your "Annual Reports" under the applicable section of your OCD discharge permit. The OCD has been deficient in tracking reporting obligations in the past; however, the OCD has recently upgraded our online system to track operators who are not meeting the reporting requirements specified in OCD Discharge Permits. Please plan on submitting the report with the required information by the date required in your discharge permit.

To access your OCD Discharge Permit Online for the date of submittal and contents of the report, please go to OCD Online at http://ocdimage.emnrd.state.nm.us/imaging/AEOrderCriteria.aspx (enter "Order Type" as BW and your "Order Number"). If you have not submitted an Annual Report (report) for your well, a historical review of your injection and production records will be required in order to provide cumulative injection and production information in this year's report.

Please contact me if you have questions or need assistance.

Thank you in advance for your cooperation in this matter.

Copy: Brine Well Files BWs 2, 4, 8, 22, 25, 27, 28, 30 & 31

Carl J. Chavez, CHMM New Mexico Energy, Minerals & Natural Resources Dept. Oil Conservation Division, Environmental Bureau 1220 South St. Francis Dr., Santa Fe, New Mexico 87505

Office: (505) 476-3490 Fax: (505) 476-3462

E-mail: CarlJ.Chavez@state.nm.us

Website: http://www.emnrd.state.nm.us/ocd/index.htm (Pollution Prevention Guidance is under "Publications")