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REPORTS

DATE:





Plosure Plan Investigation Report



Samson BD-04 Reserve Pft Samson Investment Company

R.T. HICKS CONSULTANTS, LTD.

'901 Rio Grande Bivd. NW, Sume F-142, Albuquerque, NM 87104

August 2006

Closure Plan Investigation Report

SAMSON BD-04 RESERVE PIT

Prepared for:

Samson Investment Company Two West Second Street Tulsa, OK 74103

R.T. HICKS CONSULTANTS, LTD.

1.0 INTRODUCTION

Plate 1 shows the location of the site relative to the junction of US highway 380 and State Highway 457, about 15.5 miles west-northwest of Tatum, New Mexico. The State "BD" No. 4 Reserve Pit is in T12S-R33E-Section 2, Unit Letter H (latitude 33° 18' 35" N, longitude 103° 34' 39" W). The photographs in Figures 1 and 2 (below) depict the site and nearby environs.



Figures 1 & 2 - Site and surrounding area.



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The drilling reserve pit was constructed in 2004 by removing the top 1-2 feet of soil and placing it along the northeastern edge. Caliche below the topsoil excavated as part of the original pit construction was stockpiled on the eastern edge of the pit. The pit was used for approximately 60 days in 2004 and contained an average of 2 to 3 feet of brine water during that time. During the closure of the pit, sampling suggested that a release of brine drilling mud had occurred, impacting the underlying earth material. The reserve pit was over-excavated to a depth of 13 to 20 feet and all of the excavated material is stockpiled in two piles – the existing pile east of the pit and one on the southern edge of the pit.

Figure 1 is looking east from the tank battery with the excavated reserve pit in the background. In Figure 1, the eastern (red/pink) spoil pile, which contains material excavated prior to use of the pit, lies behind the pit. The southern spoil pile (white) to the right of the pit is material excavated from the pit as part of the release delineation program conducted after the residual pit material had dried. The clean top soil from the original reserve pit excavation is visible behind the equipment in Figure 1. Figure 2 is a view to the south of the eastern edge of the excavation, showing both monitoring wells and the general grain size of the material excavated from the pit. Figure 3 shows the wall of the excavation and the nature of the uppermost 10-13 feet of the vadose zone – the barbed wire fence on the top of the photo provides a reference scale.

Plate 2 is a topographic map of the site and the environs, showing the locations of nearby water supply wells. Plate 3 is 2005 image from Google Earth of the same radius, and indicates that the surrounding area is used primarily for oil and gas production and grazing.

The reserve pit was active during the drilling of the new well, a period of about 60 days in 2004. After sufficient time had passed to dry the residual material, closure of the pit commenced in 2005. Samson then directed the excavation of the residual material and the over excavation of the pit in late Fall 2005 as part of a delineation program. Plate 4 presents three aerial photographs of the area:

- a) an aerial photograph prior to drilling BD-04 (1996-98)
- b) an aerial photograph during the drilling (2004), and
- c) a 2005 image showing the excavator during delineation operations



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Figure 3 - Wall of the excavation shows upper 10-13 feet of the vadose zone.

2.0 INVESTIGATION RESULTS

2.1 HYDROGEOLOGY

The State "BD" No. 4 site is located on the Llano Estacado or southern High Plains which is a plateau standing from 100 to 300 feet above the surrounding region. Near the site, in northern Lea County, the plains are nearly flat, broken only by low swales and small depressions. The southeast trending surface drainage system is poorly formed along the regional slope of approximately 10-15 feet/mile. Run-off from the average 14 inches of annual precipitation is largely captured by the shallow depressions where it infiltrates or is lost to evapotranspiration.

The rocks exposed at the surface are Tertiary age alluvial deposits and petrocalcic soils of the Tertiary Ogallala formation (see Plate 5). Descriptions of the samples from a site soil boring (background) and two monitoring wells (see Appendix A) indicate that a thin (less than 1-foot) layer of topsoil is present from which sparse vegetation, including mesquite trees and various native grasses exist. Underlying the top soil to a depth of approximately 28 feet is a broken caliche layer, which includes interbedded silt and find-grain sand with some hard, massive caliche boulders (see Figure 3).

Below the broken caliche layer, the Ogallala consists of fine-grain sand that varies in color, cementation, and grain size. Generally the grain size increases with depth and may include discontinuous beds of coarsegrain sand and gravel. The maximum thickness of the Ogallala formation is found approximately 15 miles west of the site, at the Mescalero Ridge (escarpment). According to state records from the area water wells the Ogallala formation is approximately 160 feet thick at the site, although very few of the wells actually penetrate the underlying Triassic red clays. Appendix B provides the well logs for these nearby wells from the Office of the State Engineer.

All ground water production in the area surrounding the site, based on data from the state well records, is from the Ogallala aquifer from approximately 50 to 160 feet bgs. Ground water was encountered in both of the site monitoring wells at approximately 40 feet bgs. Plate 6 shows the regional potentiometric surface of the aquifer based upon available data. It indicates that the regional ground water gradient is to the southeast at 0.0029 ft/ft. There are no prominent surface features that would suggest that the local ground water gradient should be different from what is observed on a regional scale.

Many reports discuss the hydrogeologic characteristics of the Ogallala Aquifer. The report from Masharrafieh and Chudnoff (Numerical Simulation of Groundwater Flow for Water Rights in the Lea County Underground Water Basin New Mexico, New Mexico Office of the State Engineer Technical Report 99-1, 1999, Figure 10) provides an estimate of the hydraulic conductivity and other parameters near the site (Figure 4). The State "BD" No. 4 site area is about 15 miles west of Tatum, which is within the model boundary. In this area, the 1999 report indicates a hydraulic conductivity for the underlying aquifer of approximately 41-60 feet/day. Based upon our drilling at the site and experience in the area, this value at the site appears reasonable.

An assessment of the background chemical quality of the Ogallala ground water in the surrounding area is based on information from New Mexico Infrastructure Data System. Water well L-1331 is located approximately 1.3 miles west-northwest of the site and has been sampled for chloride concentrations on May 9, 1984 (133 mg/l), June 20, 1990 (167 mg/L), and September 20, 1995 (116 mg/L). Water well L-6241 is located approximately 0.8 miles east-northeast of the site and has been sampled for chloride concentrations on November 8, 1979 (48 mg/L), June 13, 1984 (52 mg/L), June 20, 1990 (83 mg/L), and September 20, 1995 (38 mg/L). Total dissolved solids (TDS) concentrations were not available for these wells.



Figure 4- Map showing estimated hydraulic conductivity near the site.

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2.2 CHARACTERIZATION ACTIVITIES AND METHODS

A composite soil sample from the bottom of the excavation was collected by others on December 2, 2005. Also on that date six 8- to 12-foot deep trenches were installed at the base of the excavation so that soil samples could be recovered at approximately 28 feet bgs. Plate 7 shows the locations of the sampling trenches.

Instead of taking a composite sample similar to what was done at the 13foot depth, the samples from the six trenches were field screened using a HACH kit tester and the individual trench sample with the highest chloride concentration was submitted to the laboratory for analysis. The results indicate that the single chloride concentration at the 28-foot depth (6,958 mg/kg) is greater than the chloride concentration from the composite sample obtained at the 13-foot depth (4,958 mg/kg).

On May 8 and 9, 2006 Hicks Consultants collected soil samples from two hollow-stem auger borings placed adjacent to the reserve pit excavation, the borings were then converted to ground water monitoring wells. Monitoring Well No. 1 (MW-1) was placed near the south corner of the excavation and Monitoring Well No. 2 (MW-2) was placed near the east corner of the excavation. The highest chloride concentration in the soil was observed in MW-1 at nine feet below the surface (49.4 mg/kg); none of the other chloride concentrations in the soil samples exceeded 12 mg/kg. The results of the soil sampling at the site are summarized in Tables 1a and 1b, attached.

In addition to the two monitoring wells, a background soil boring was installed in a vegetated area to the north of the reserve pit.

Each well was completed by advancing the augers to approximately fifteen feet below the first ground water depth and installing 20 feet of 2-inch, 0.02-inch slotted PVC screens with 2-inch PVC blanks to the surface. The screens were covered with 8/16 silica sand (filterpack) and topped with at least 17 feet of bentonite, then cuttings to 1.5 feet bgs. The casing above the surface is protected by a steel locking access box set in a 3-foot by 3-foot concrete pad.

On May 11, 2006 both monitoring wells were developed by purging at least 50 gallons (20 well volumes) of water and on May 12, 2006 ground water samples were recovered. Prior to sampling, each monitoring well was purged of at least 3 well volumes of water using a disposable bailer at an average purge rate of 0.4 to 0.5 gallons per min (gpm). Temperature, pH, and conductivity were measured using a Hydac testing instrument during the purging operations to ensure that the ground water samples were representative of the aquifer. Each monitoring well sample

was recovered using a disposable bailer. The samples were placed (unfiltered and unpreserved) in 1-liter plastic bottles, chilled to 4°C and hand delivered to Environmental Labs of Texas (Odessa) for analyses of bromide and chloride using EPA method 300.0 and TDS using EPA method 160.1.

On July 12, 2006, Hicks Consultants elected to provide a better characterization of the chloride mass released at the site by collecting additional samples from the spoil piles and trenches.

We obtained:

From the south impacted pile:

- 4 representative samples from the south impacted pile (SIP-S, SIP-N, SIP-E, SIP-W)
- 1 sample of the coarse-clasts (about golf ball size) from the south impacted pile (SIPL-SL)

From the east impacted pile:

- 4 representative samples from the north side of the east impacted pile (NSEIP-S, NSEIP-N, NSEIP-E, NSEIP-W)
- 4 representative samples from the south side of the east impacted pile (SSEIP-S, SSEIP-N, SSEIP-E, SSEIP-W)
- 1 sample of coarse-clasts from the east impacted pile (EIPL)

From piles associated with each of the six trenches dug in the floor of the current excavation, one representative sample:

• 1 representative sample from the spoil pile associated with each of the six bottom excavation backhoe trenchs (EDT-NW, EDT-NC, EDT-NE, EDT-SW, EDT-SC, EDT-SE)

Plate 7 shows the locations of these samples with the identifying nomenclature as referenced above. Figure 5 shows a typical sample location. This sample site is the South Impacted Pile Southern location (SIPS). Note that the pile consists of about 20% cobble-sized clasts, 50% large clasts (smaller than cobbles and larger than 5mm), and 30% sand-sized. Note also that the photograph shows the surface crust of salt that exists due to the upward wicking of soil moisture, evaporation of the water and crystallization of the salt due to the evaporation. In all of the samples taken during this event, we dug a small trench as shown and placed a representative sample in a plastic bag for laboratory analysis. We attempted to capture a limited amount of the salty crust with each sample to collect what we believe is a sample representative of the entire pile.

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Figure 5 - Example of a sample location.

Because we are interested in estimating the total mass of residual chloride and are not interested in maximum chloride concentrations, we asked Hall Analytical to modify their standard soil sample preparation procedure. Instead of extracting 10 grams of the sample for analysis, Hall used the entire sample consisting of large clasts and fine-grained material. In order to understand if chloride was concentrated in the fine-grained portion of the sample, as suspected, we also collected two samples of large (golf-ball size) clasts for separate analysis, as discussed above.

Finally, in August 2006, we collected a second set of ground water samples from the two monitoring wells which confirmed the previous results.

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3.0 CONCENTRATIONS OF CONSTITUENTS IN THE UPPER VADOSE ZONE

Soil sampling results are presented in Table 1a and 1b. A summary of the ground water sample results from the monitoring wells is provided on Table 2 and the laboratory reports for both the soil and ground water samples are provided in Appendix C.

In ground water, the measured concentrations of TDS and chloride do not exceed the New Mexico Water Quality Control Commission (WQCC) standards. The result from MW-2 (44.5 mg/L) corresponds with the background measurements reported from the area water wells. At MW-1, located directly down gradient from the pit, the chloride concentration

is 131 mg/L, which is above background but below WQCC Standards. A comparison of the ground water chloride-bromide (Cl/Br) ratio with that of the soil indicates that the chloride concentrations in the ground water may be slightly higher than the expected natural conditions as the Cl/Br ratio should be consistent in non-impacted media.

We used the data from Table 1 to create a chloride concentration profile of the Figure 6: Chloride Profile of BD 4 Site



site (see Figure 6). To create Figure 6, we used all of the available data. We calculated the concentration for the material from 10-13 feet bgs by averaging the concentration from the composite sample of the pit excavation bottom obtained in December 2005 with the four samples from the south spoil pile. This calculation yielded an average chloride concentration of 2300 mg/kg. We understand that the south spoil pile is the material excavated from 10-13 feet below ground surface. To arrive at a concentration for the material from 13-28 feet, we averaged the "hot spot" sample taken from these trenches in December 2005 with the six spoil pile samples obtained in July 2006, which yielded an average of about 2900 mg/kg. We assumed that the concentration increased in a linear fashion between 16 and 28 feet bgs, as shown in Figure 6.

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We have no chloride data for soil below 28 feet bgs, but the monitoring wells provide data from which we can estimate the chloride concentration in the lowermost vadose zone. We know that about 18 months after the pit dried (summer 2006) the ground water chloride background concentration is about 45 mg/L and the concentration in down gradient well MW-1 is about 130 mg/L. Therefore, ongoing seepage of chloride from the vadose zone to ground water has caused chloride to increase by 85 mg/L. We employed the unsaturated zone simulation model HYDRUS-1D to estimate the natural flux from the vadose zone to ground water for an un-vegetated surface and the ground water data to estimate the ground water flux beneath the pit. We used a simple mixing equation in order to estimated the average chloride concentration in the material just above the water table. We conclude that the material between 28 feet and the ground water table is most likely about 600 mg/kg.

We believe that the chloride was distributed through the vadose zone relatively uniformly immediately below the original pit bottom (5 feet bgs) to a depth of about 13-16 feet. The relative uniformity of the chloride concentrations in the southern spoil pile and their agreement with the value from the 5-point composite sample at 13 feet provides support for this conclusion. The trench sample concentrations show a higher degree of scatter, demonstrating that some areas of the former pit were more highly impacted by seepage than others. From this data and our experience with other reserve pit sites we conclude that below 13-16 feet, preferential pathways of saturated flow caused an uneven distribution of chloride in the vadose zone. The mass of chloride within these pathways diminished with depth, creating an average chloride concentration of 600 mg/kg near the water table. Figure 7 presents the conceptual model of chloride distribution below the BD-04 reserve pit.

Figure 7. Sketch showing extent of chloride below moist areas.



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Note also that Figure 6 also assumes that the chloride concentration of the material from 5-13 is about 250 mg/kg, the same concentration as the average obtained from sampling the east spoil pile. From 0-5 feet, we assumed the background concentration of about 30 mg/kg.

From the site characterization data we conclude that:

- 1. Elevated chloride concentrations in the upper vadose zone extend to at least 28 feet bgs.
- 2. In some limited areas of the former pit, preferential saturated flow have caused a small mass of chloride to penetrate the underlying aquifer.
- 3. The lateral extent of the subsurface impact is limited to the area below the pit.
- 4. Additional ground water characterization is not required.

TABLES

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Table 1aLaboratory Results of Soil Samples Obtained by OthersResults in mg/kg

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Sample Location	Pit Comp	Pit (max)*
Sample Dooth (ft)	16 ff	20 H
Sample Depth (it)	12/2/05	12/2/05
Sample Date	12/2/05	12/2/05
Benzene	-	
Toluene		
Ethyl Benzene		
Total Xylenes		
GRO (C ₆ -C ₁₀)		
DRO (>C ₁₀ -C ₂₈)		
Total Alkalinity	208	96
Chloride	4,958	6,958
Carbonate	0	76
Bicarbonate	254	40
Sulfate	943	298
Calcium	128	705
Magnesium	78	467
Potassium	136	70
Sodium	2,928	2,928
Bromide		

* - Sample taken from area of highest CI concentration based on HACH kit field screening

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Labora	atory Results Soi	I Borings and Spo	il Pile S	Samples	
Monitoring	Sample	Depth	PID	Br	CI
Well/Spoil Pile	Date	(ft)	(ppm)	(mg/kg)	(mg/kg)
		· · · · · · · · · · · · · · · · · · ·			
MW-1	5/8/2006	9	0		49.4
		19	0		7.86
		29	0		3.38
		34	0	<0.1	5.02
MW-2	5/9/06	9	0		10.0
		19	0		7.30
		29	0		8.27
-		34	0		7.77
		39	0	0.187	12.0
Spoil Pile Samples	· · · · · · · · · · · · · · · · · · ·				
SSEIP-E	7/12/2006	2.0-5.0			230
SSEIP-S	7/12/2006	2.0-5.0			120
SSEIP-W	7/12/2006	2.0-5.0			190
SSEIP-N	7/12/2006	2.0-5.0			220
NSEIP-S	7/12/2006	2.0-5.0			320
NSEIP-E	7/12/2006	2.0-5.0			110
NSEIP-W	7/12/2006	2.0-5.0			300
NSEIP-N	7/12/2006	2.0-5.0			370
EIPL	7/12/2006	2.0-5.0			7.6
SIPL-SL	7/12/2006	5.0-13.0			1400
SIP-S	7/12/2006	5.0-13.0			2300
SIP-E	7/12/2006	5.0-13.0			940
SIP-N	7/12/2006	5.0-13.0			1700
SIP-W	7/12/2006	5.0-13.0			2500
EDT-SW	7/12/2006	13-28		<3	5400
EDT-NW	7/12/2006	13-28		<3	2000
EDT-SC	7/12/2006	13-28		<3	3000
EDT-NC	7/12/2006	13-28		<3	3700
EDT-SE	7/12/2006	13-28		<3	850
EDT-NE	7/12/2006	13-28		<3	1700

Table 1b	
Laboratory Results Soil Borings and Spoil Pile Same	1

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Table 2Laboratory Results Summary - Groundwater SamplesResults in mg/L

Monitor Well Sample Date	MW-1 5/12/06	MW-2 5/12/06	MW-1 8/2/06	MW-2 8/2/06	WQCC Standard
Bromide	0.482	0.446			
Chloride	131	44.5	115	42.2	250
Total Dissolved Solids	838	530	648	444	1,000
Cl/Br Ratio (unitless)	272	100			

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PLATES

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901 Rio Grande Blvd NW Suite F-142
Albuquerque, NM 87104
Ph: 505.266.50042005 Aerial Photograph of Site and EnvironsPlate 3Ph: 505.266.5004Samson Investment Company
State BD-04 Site Investigation ReportAugust 2006



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<u>R.T. Hicks Consultants, Ltd</u> 901 Rio Grande Blvd NW Suite F-142	1996-98 Aerial Photograph of Site	prior to drilling	Plate 4a
Albuquerque, NM 87104 Ph: 505.266.5004	Samson Investment Com State BD-04 Site Investigatio	ipany on Report	August 2006









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Geologic Map Legend

Samson Investment Company State BD-04 Site Closure Report Plate 5-Legend

August 2006



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APPENDIX A

Cor	isulta	ints	Ltd	MONIT	FOR WEL S CE ELEV CONTRA	L NO.: SITE ID: ATION:	MW-1 Samson Approxir	State BE nately 42	TOTAL DEPTH: 55.0 Ft CLIENT: Samson Investment Co. 33 COUNTY: Lea County STATE: New Mexico
P 0 Mid (43)	Box 762 land, TX 2) 528-383	4 79708 78		DRIL INSTA WEL	LING ME LLATION L PLACE COMM	THOD: DATE: MENT: MENTS:	Hollow-S 5/8/06 South of Lat. 33°	Stem reserve 18' 34.3"	LOCATION: T-12-S, R-33-E, Sec. 2 (H) FIELD REP.: Dale Littlejohn FILE NAME: \State BD-4\Lithlogs (5-06) North, Long. 103° 34' 38.8" West
 		Lithol	ogy	SA	MPLE D	ATA	1	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAI
			PHO1		% REC	PID	CI (Lab)		SIZE, SORTING, ROUNDING, CONSOL., DIST. DEATURE
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		-	- 725						CALICHE gray to grayish tan with silt and very fine grain
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							49.4	10	SILT tan to light brown, with some caliche and fine gain
				9-11	35%	0 ppm	mg/kg		sand.
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	<u>لا ﷺ</u>						[····	15	SAND light brown, fine grain, sub angular, well sorted, with
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	PVC 1	-		19-21	25%	0 ppm	7.86	20	
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			S Mark						
								25	SAND light brown, fine grain, sub angular, well sorted, with
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				29-31	30%	0 ppm	3.38 ma/ka	30	
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			22	157					
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E				34-36	15%	0 ppm	5.02 mg/kg		
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						(	CONTRA	CTOR:	Atkins E	naineerin	a STATE: New Mexico
Р	0 80	762	A			DRIL		ETHOD:	Hollow-S	Stem	LOCATION: T-12-S, R-33-E, Sec. 2 (H
	idlan	1. TX	7970	8		INSTAL	LATION	DATE:	5/9/06		FIELD REP.: Dale Littlejohn
(4	32) 52	28-38	78	-		WELL	PLACE	MENT:	East cor	ner of res	serve pit FILE NAME: \State BD-4\Lithlogs (5-06
-							COMN	IENTS:	Lat. 33°	18' 35.5"	North, Long. 103º 34' 37.6" West
Г			Lith	ology		SA	MPLE D	ATA		DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRA
					РНОТО	DEPTH	% REC	PID	Ci (Lab)		SIZE, SORTING, ROUNDING, CONSOL., DIST. DEATURE
					5.00						CALICHE with top soil, brownish gray, silty, hard.
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		8 h.	<u> </u>						mg/kg		hard sandstone layers at 22 -23 feet and 27-28 feet.
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- 1000		8							1		•
			-	<u>_</u>	الاست (الاستي بيت كالمست						
				-	and the second						CALICHE AND SILT gray to light brown with some fine
									8.27	30	grain sand.
			<u> </u>		3,7	29-31	10%	0 ppm	mg/kg		Ĭ
					<i></i>						SAND light brown, very fine grain, angular, poorly sorted,
											with some silt.
					50 °						
						34-36	10%	0 ppm	7.77	35	
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											SANDSTONE arou to it brown with an another ala
											SANDS I UNE gray to It brown, v th gr, angular, p/s.
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## **APPENDIX B**

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#### WELL RECORD

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	Name of permittee,	at Jestem Irllin	6.00.
Sti	Street or P. O.,	, City and S	State III.d.Land Portas
1.	1. Well location and description: The	(shallow or artesian)	ed in
		, Township	, Range
	casing above sea level,	feet; diameter of hole,	inches; total depth, 162 feet;
	depth to water upon completion,	feet; drilling was c	commenced 19.5.3.,
	and completed	, 1953; name of drilling	contractor Janalla Clicina
	; Addres	ss, Patana II. II.	; Driller's License No. 412-116
2.	2. Principal Water-bearing Strata:		
	Depth in Feet From To	Thickness Desc	cription of Water-bearing Formation
	No. 1 1/2 127	5 Gray sand	seep only
	No. 2		· · · · · · · · · · · · · · · · · · ·
	No. 3		in the second
	No. 4	· .	
	No. 5		
3.	3. Casing Record:		
	Diameter Pounds Threads	Depth of Casing or Liner Feet of	Perforation
	in inches per ft. per inch	Top Bottom Casing	Type of Shoe From To
ŗ	· · · · · · · · · · · · · · · · · · ·		
			······································
4.	4. If above construction replaces old v	vell to be abandoned, give loca	ution:
	of Section, Township	, Range	; name and address of plugging contractor,
	······		
	date of plugging	; describe ho	w well was plugged:

1-1396 OWD-07

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007 14 1953

OFFICE GROUND WATER SUPERVISOR ROSWELL, NEW MEXICO  $\bigcirc$ 

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### WELL RECORD

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Nai	ne of perm	uttee,		5Q.S.D	sarti,	la pin da pini la	5GO.			
oureet (	ur P. O., .				, City	and S	tate	11(2 <b>.46</b> 1X)	na 207	461. <u>8</u>
1. Wel	l location a	nd descripti	ion: The (sha	<u>fiallo</u> illow or arte	well (kian)	is locate	d in		1⁄4,	TTT:
••••••		of Section .	2	, Tov	vnship	12.3	, Ran	se	.ä; e	levation of
casi	ng above s	ea level,	fe	eet; diam	eter of hol	e,?	in	ches; tota	l depth,	162
dept	th to water 1	upon comple	tion,	f	leet; drillin	g was co	mmence	đĮ,	arch.	, 1
and	completed	Mar	olı	, 1953	; name of	drilling o	ontracto	r	llasti	10975
	•••••••••••••••••••••••••••••••••••••••	;	; Address,	Patara	Li da		;	Driller's l	License I	No.#10-11
2. Prir	ncipal Wate	r-bearing Si	trata:					:		
	De From	pth in Feet	т	hickness		Descr	iption of V	Vater-bearin	ıg Formati	on
No.	1	107		5	Greer	sand	3697) (	mly		
No.	2						· · · · · · · · · · · · · · · · · · ·			
No.	3							ju i		
No.	4				· .		:			
No.	5				• •		:			
Diam in in	neter 1 Iches	Pounds T per ft. po	breads Dep er inch	th of Casin Top	g or Liner Bottom	Feet of Casing	Тур <b>є</b>	e of Shoe	Fro	Perforation T
Diam in in 	neter 1 ches	Pounds T per ft. pr	breads Dep er inch	th of Czsin, Top	g or Liner Bottom	Feet of Casing	Type	e of Shoe	Fro.	Perforation T
Diam in in 	neter ]	Pounds T per ft. po	breads Dep	yth of Casin, Top	g or Liner Bottom	Feet of Casing	<b>Type</b>	e of Shoe	¥ro:	Perforation m T
Diam in in 	eter ]	Pounds T per ft. pr	breads Dep	th of Czsin, Top	g or Liner Bottom	Feet of Casing	<b>Type</b>	e of Shoe	Froi	Perforation T
Diam in in   4. If a	bove constr	Pounds T per ft. po	Ces old well	th of Czsin, Top	g or Liner Bottom	Feet of Casing	Type	e of Shoe	Fro.	Perforation m T
Diam in in   4. If a of \$	bove constr	Pounds T per ft. pr 	ces old well	th of Casin, Top	g or Liner Bottom	Feet of Casing	Type	of Shoe	From ess of plu	Perforation T
Diam in in   4. If a of £	bove constr Section	Pounds T per ft. pr 	breads Dep er inch	th of Czsin, Top	g or Liner Bottom	Feet of Casing	Type 	e of Shoe	From ess of plu	Perforation m T
Diam in in   4. If a of £ 	bove constr Section	Pounds T per ft. pr 	Ces old well	th of Casin, Top	g or Liner Bottom	Feet of Casing	Type ion: ; name	y of Shoe	From ess of plu	Perforation T
Diam in in   4. If a of £  date	bove constr Section	Pounds T per ft. pi	breads Dep er inch	th of Casin, Top	g or Liner Bottom andoned, g ., Range 9; dest	Feet of Casing	Type ion: ; name	s plugged	From ess of plu	Perforation T
Diam in in   4. If a of £  date 	bove constr Section	Pounds T per ft. po uction repla , T	breads Dep cr inch	th of Casin, Top	g or Liner Bottom	Feet of Casing	Type	s plugged	From ess of plu	Perforation m T
Diam in in  4. If a of £  date 	bove constr Section	Pounds T per ft. po 	hreads Dep er inch	th of Casin, Top	g or Liner Bottom	Feet of Casing	Type	y of Shoe	From	Perforation m T
Diam in in   4. If a of £  date 	bove constr Section	Pounds T per ft. pi	<pre>breads Dep cr inch ces old well ownship</pre>	th of Casin, Top	g or Liner Bottom	Feet of Casing	Type	s plugged	From	Perforation T
Diam in in   4. If a of £  date 	bove constr Section	Pounds T per ft. pi	breads Dep cr inch	th of Casin, Top	g or Liner Bottom	Feet of Casing	Type ion: ; name / well wa	s plugged	From	Perforation T
5. Log of Well:

Depth	in feet	Thickness	
From	To	in feet	Description of Formation
Ū1	2	2	Boll
2	10	8	Galicho
10	60	50	Hellar shole
60	nie	ão.	and the laterary indice amongles also a
	And Ball And Colo		- an en ou magne maine meaning meaning
		kız	anety grey sand (water scep)
<u>7</u>	1.56		<u>Alue shale</u>
158	162		ited bed
<u></u>			
			LSElevTrc
· · · ·			Elev of K
· · ·			Loc NO.
· ·			Hydro. SurveyField Check
			SOURCE OF ALTITUDE GIVEN
			Interpolated from Topo Sheet
			Determined by Inst. Levening
<b>e</b> ntes			Other
······································			
J			
			• • • • •
			v.
	· ·		
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The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

Mauchans Licensed Well Driller

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Instructions

(This form to be executed in triplicate) WELL RECORD

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Date of Receipt	Permit No. 2-1396
Name of permittee, Breat Western Drilling	g.Co.
Street or P.O.,Box 191	nd State Lubbock, Texas
1. Well location and description: The Shallow well is	located in
(shallow or artesian)	South and 33 Fast music for
opcing choice for local and local an	7
doubt to motion an	15 Newsmbor 4
and completed Nowombor 1	Is commenced
P O Box 637 Hohles Hohles Nois	Mexico - Willing contractor
Address, <u>HOUDS</u> , <u>NEW</u>	MEALCO; Driller's License No.WD-420
2. Principal Water-bearing Strata:	
Depth in Feet From To Thickness	Description of Water-bearing Formation
No. 1 41 concrete plug set 21 below	v surface on rubble filled hole
No. 3	
No. 4	
No. 5	······································
3. Casing Record:	n an
in inches per ft. per inch Top Bottom C	Lasing Type of Shoe From To
· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·
	-
4. If above construction replaces old well to be abandoned, give lo	ocation:
of Section, Township, Range	; name and address of plugging contractor,
Abbott Brothers, P.O. Box 637; I	lobbs, New Mexico
date of pluggingNovember 4	be how well was plugged: 4. Concrete plug
set 2' below surface over rubble fi	lled hole.
	NOV 13 1952
	OFFICE
	ARTESIAN WELL SULLAVISOR ROSWELL, NEW MEXICO

1-10 41

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Log of Well: Depth in feet From To Thickness in feet Description of Formation .

n 12 ~ . . . ¢ . . **·** <u>.</u> . î - . **.** . . . av i Ta ang anati e se se

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The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and corthers Abbott Bro rect record of the above described well. By Licensed Well Driller Instructions

This form shall be executed, preferably typewritten, in triplicate and filed with the State Engineer's Office at Roswell, New Mexico, within 10 days after drilling has been completed. Data on water-bearing strata and on all formations encountered should be as complete and accurate as possible. 

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# WELL RECORD

Name of parmitte	areat ile	storm	Ørillin	: Goran	RENT		
ivame of permitte	16,	*********					
Street or P.O.,	.9. 00x 191	l.	, City	and State	Lubbock	, Toxas	<b>)</b>
1. Well location and	description: The	elan1]		well is lo	ocated in	<u></u>	1753 1
	अर्थ गु	(anan		×3	<b>.</b>		:
1/4	of Section	, То	wnship		Range	9 ; E	levation of top of
casing above sea	level,	feet; dia	meter of hole	,	inches; to	otal depth,	126 fee
depth to water up	on completion,	45	feet; drilling	was comm	henced	arola 5	
and completed	laron 6		ese 9 : name	of drillin	e contractor	laudo	Patum
Seli a Boabin	retar	ĩ.ou		ST. 13		1	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1
لكى يونيا بعد المالية المالية التي من المالية من المالية من المالية من المالية من المالية من المالية من المالية من المالية المال	; Addre	ess,		<u>849</u> (1149)	; Drille	er's License	No
2. Principal Water-b	earing Strata:		··· · ·				Ŷ
Depth	in Feet	(1)16 1 a ¹		<b>T</b> .	intion - e ver i -	and the second	tion .
No. 1	10	<u>Inickness</u>		Descri	iption of Water-I	earing Forma	
No. 2	^م نتل ^و دور کروایی	<u></u>		WALL .	under the links	۵ <u>۲.</u> ۱۳۶۰	
		<u></u>					
							······
110. 1							
No. 5							
No. 5						· · · · · · · · · · · · · · · · · · ·	·
No. 5 3. Casing Record:						· · · · · · · · · · · · · · · · · · ·	:
No. 5 3. Casing Record:	inds Threads D	Depth of Casi	ing or Liner Battom	Feet of	Type of Sho	a Fro	Perforations To
No. 5 3. Casing Record: Diameter Pol in inches per	unds Threads D r ft. per inch	Depth of Cas Top	ing or Liner Bottom	Feet of Casing	Type of Sho	e Fro	Perforations m To
No. 5 3. Casing Record: Diameter Pol in inches pel 6 1	unds Threads D r ft. per inch	Depth of Casi Top	ing or Liner Bottom	Feet of Casing	Type of Sho	e Fro	Perforations m To
No. 5 3. Casing Record: Diameter Poin in inches pei 6. 1	unds Threads D r ft. per inch	Depth of Casi Top	ing or Liner Bottom	Feet of Casing	Type of Sho	e Fro	Perforations m To
No. 5 3. Casing Record: Diameter Pol in inches per	unds Threads D r ft. per inch	Depth of Casi Top	ing or Liner Bottom	Feet of Casing	Type of Sho	e Fro	Perforations m To
No. 5 3. Casing Record: Diameter Pol in inches per	unds Threads D r ft. per inch	Depth of Casi	ing or Liner Bottom	Feet of Casing	Type of Sho	e Fro	Perforations m To
No. 5 3. Casing Record: Diameter Poin in inches per Diameter Point	unds Threads D r ft. per inch	Depth of Casi	ing or Liner Bottom	Feet of Casing	Type of Sho	e Fro	Perforations m To
No. 5 3. Casing Record: Diameter Polin inches per	unds Threads D r ft. per inch	Depth of Casi	ing or Liner Bottom	Feet of Casing	Type of Sho		Perforations om To
No. 5         3. Casing Record:         Diameter       Point in inches         in inches       peint         in inches       pein	unds Threads D r ft. per inch	Depth of Cash Top Q	ing or Liner Bottom	Feet of Casing 126	Type of Sho MMO		Perforations m To 126
No. 5         3. Casing Record:         Diameter point in inches per         io         iii         iii         iii         iii         iii         iiii         iiiiii         iiiiiiiii         iiiiiiiiiiiii         iiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii	unds Threads D r ft. per inch	Depth of Casi Top Q	ing or Liner Bottom	Feet of Casing	Type of Sho Mana	e Fro 1()	Perforations m To 1 124
No. 5         3. Casing Record:         Diameter point in inches per         6         1         If above construct of Section	ion replaces old we	bepth of Cash Top	Ing or Liner Bottom 1205	Feet of Casing	Type of Sho FICTIO	e Fro 16)	Perforations om To 126
No. 5         3. Casing Record:         Diameter point in inches per $\bigcirc$ <t< td=""><td>ion replaces old we</td><td>Depth of Casi Top</td><td>Ing or Liner Bottom 1200</td><td>Feet of Casing LEC</td><td>Type of Sho</td><td>e Fro 10</td><td>Perforations m To 126 14, 104 TOL ugging contractor</td></t<>	ion replaces old we	Depth of Casi Top	Ing or Liner Bottom 1200	Feet of Casing LEC	Type of Sho	e Fro 10	Perforations m To 126 14, 104 TOL ugging contractor
No. 5         3. Casing Record:         Diameter point in inches per         io       1         io       1         4. If above construct of Section	ion replaces old we	Depth of Casi Top O	ing or Liner Bottom 1200	Feet of Casing LEC	Type of Sho	e Fro 14)	Perforations m To 126
<ul> <li>No. 5</li> <li>3. Casing Record: <ul> <li>Diameter point in inches per</li> <li>iii inches per</li> <li>iiii inches per</li> </ul> </li> <li>4. If above construct of Section</li></ul>	ion replaces old we	Depth of Casi Top	ing or Liner Bottom 1225 Pandoned, give , Range 19; de	Feet of Casing LEG	Type of Sho FICTIO	e Fro 14) Apply dress of ph	Perforations m To 1.4, ugging contractor
No. 5         3. Casing Record:         Diameter point in inches         Diameter point         Diameter point         4. If above construct of Section	ion replaces old we	Depth of Casi Top O	ing or Liner Bottom 1205 Pandoned, give , Range 19; de	Feet of Casing LEG	Type of Sho FICTIO	e Fro 14) Apply dress of ph	Perforations m To 1.4, 1047 TOL ugging contractor
<ul> <li>No. 5</li> <li>3. Casing Record: <ul> <li>Diameter point in inches period</li> <li>iii inches period</li> <li>iiii inches period</li> </ul> </li> <li>4. If above construct of Section</li></ul>	ion replaces old we	bepth of Casi Top	ing or Liner Bottom 1205 Pandoned, give , Range 19; de	Feet of Casing LEG	Type of Sho FIGURE DOG ST TING ; name and ac v well was plu	e Fro 14) Apply dress of ph	Perforations m To 1.4
<ul> <li>No. 5</li> <li>3. Casing Record: <ul> <li>Diameter point in inches period</li> <li>iii inches period</li> <li>iiii inches period</li> </ul> </li> <li>4. If above construct of Section</li></ul>	ion replaces old we	bepth of Casi Top	Ing or Liner Bottom 12.05	Feet of Casing LEG	Type of Sho FIGURE DOG S III ; name and ac w well was plu	e Fro 14) Apply dress of plu	Perforations m To 124
No. 5         3. Casing Record:         Diameter point in inches         Diameter point in inches         Diameter point         4. If above construct of Section	unds Threads D per inch	bepth of Cash Top Il to be ab	Ing or Liner Bottom 12.05	Feet of Casing	Type of Sho FIGURE DOG'S INC ; name and ac v well was plu	e Fro 10 apply dress of plu agged: APR 3	Perforations m To 126 

5. Log of Well:

Depth From	in feet To	Thickness in feet	Description of Formation
 5 ³ 3	3		San
	3.2	0	i i i i i i i i i i i i i i i i i i i
12	35	23	Gallicine and pock
1.35	45	10	Senéstono
45	75	30	Nater sand
75	126	51	Julok sands
· · ·			
			·
			· · · · · · · · · · · · · · · · · · ·
			: 
			· · · · · · · · · · · · · · · · · · ·
		· · · · · · · · · · · · · · · · · · ·	
·		· · ·	
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N	·	· · · ·	
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The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correctirecord of the above described well.

Licensed Well Driller

Instructions

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## WELL RECORD

Street or P.O.,	Dra	wer D	City and State	Monumetr	t, New Me	xicc
1. Well location ar	nd description: The	shallow	well is located in.	SW		t N
NW	な of Section <u></u> れ	, Township.	12-S , R	ange 33-E	; Elevat	ion of
casing above se	a level, 4235	feet; diameter of i	hole,	inches; total d	lepth, 114	•
depth to water a	upon completion,	38° feet; drill	ling was commenc	ed	July 25	, 19
and completed	July 20	6, 19. <u>50;</u> nam	e of drilling contra	actor W. H. H	oward	1
•••••	; Ad	dress, Lovingto	n, New Mexico	Driller's I	License No	
2. Principal Water	-bearing Strata:	· · ·	· · · · ·	. <i>·</i>		
D	epth in Feet					
From No. 1	To	Thickness	Descriptio	on of Water-bearing	Formation	
481 No. 2	113'	651	Water	Sand		
No. 3						
No. 4		· ·			•	
No. 5 3. Casing Record: Diameter In inches <u>6"OD</u>	Pounds Threads per ft. per inch 9# Vict. (Weld)	Depth of Casing or Liner Top Bottom O! 114	Feet of Casing 114	Type of Shoe	Perfor From 701	ations
No. 5 3. Casing Record: Diameter In inches <u>6"OD</u>	Pounds Threads per it. per inch 9# Vict.	Depth of Casing or Liner Top Bottom	Feet of Casing 114	Type of Shoe	Perfor From	ations
No. 5 3. Casing Record: Diameter In inches 6"OD	Pounds Threads per it. per inch 9# Vict. (Weld)	Depth of Casing or Liner Top Bottom O! 114	Feet of Casing 114	Type of Shoe	Perfor From 	ations1]
No. 5 3. Casing Record: Diameter In Inches <u>6"OD</u>	Pounds Threads per ft. per inch 9# Vict. (Weld)	Depth of Casing or Liner Top Bottom Of 114:	Feet of Casing 	Type of Shoe	Perfor From 	ations 5
No. 5 3. Casing Record: Diameter In inches 6"OD	Pounds Threads per ft. per inch 9# Vict. (Weld)	Depth of Casing or Liner Top Bottom Of 114:	Feet of Casing	Type of Shoe	Perfor From 	ations
No. 5 3. Casing Record: Diameter In inches 6"OD	Pounds Threads per it. per inch 9# Vict. (Weld)	Depth of Casing or Liner Top Bottom QI 1741	Feet of Casing 	Type of Shoe	Perfor From 	ations ,
No. 5 3. Casing Record: Diameter In inches 6"OD 4. If above constru	Pounds Threads per ft. per inch 9# Vict. (Weld)	Depth of Cashing or Liner Top Bottom OI 114: vell to be abandoned,	Feet of Casing 114 [#] give location:	Type of Shoe	Perfor From 	ations
No. 5 3. Casing Record: Diameter In inches 6"OD 4. If above constru of Section	Pounds Threads per ft. per inch <b>9# Vict.</b> (Weld) 	Depth of Casing or Liner Top Bottom O! 114 vell to be abandoned, , Range	Feet of Casing 114 [‡] give location:	Type of Shoe	Perfor From 	ations
No. 5 3. Casing Record: Diameter In inches 6"OD 4. If above constru of Section	Pounds Threads per it. per inch 9# Vict. (Weld) 	Depth of Cashing or Liner Top Bottom O: 114: vell to be abandoned, 	Feet of Casing 114 [‡] give location:	Type of Shoe	Perfor From 701 	ations ,
No. 5 3. Casing Record: Diameter In inches 6"OD 4. If above constru of Section	Pounds Threads per ft. per inch 9# Vict. (Weld) 	Depth of Casing or Liner Top Bottom O! 114: vell to be abandoned, 	Feet of Casing 134 give location:	Type of Shoe	Perfor From 70† 4, 5 of plugging	ations
No. 5 3. Casing Record: Diameter In inches 6"OD 4. If above constru of Section	Pounds Threads per ft. per inch 9# Vict. (Weld)	Depth of Casing or Liner Top Bottom O! 114: vell to be abandoned, , Range.	Feet of Casing 114 ⁴ give location:	Type of Shoe	Perfor From 701	ations ,
No. 5 3. Casing Record: Diameter In inches 6"OD 4. If above constru of Section	Pounds Threads per it. per inch 9# Vict. (Weld) action replaces old w , Township	Depth of Cashing or Liner Top Bottom O. 114: vell to be abandoned, , Range.	Feet of Casing 114 [‡] give location:; na describe how well	Type of Shoe	Ferfor From 701	ations ,
No. 5 3. Casing Record: Diameter In inches 6"OD 4. If above constru of Section date of plugging date of plugging	Pounds Threads per it. per inch 9# Vict. (Weld) 	Depth of Casing or Liner Top Bottom O! 114: vell to be abandoned, , Range.	Feet of Casing 114 give location: ; na describe how well	Type of Shoe	Perfor From 70† 4, s of plugging	ations , 1]
No. 5 3. Casing Record: Diameter In inches 6"OD 4. If above constru of Section date of plugging date of plugging	Pounds Threads per ft. per inch 9# Vict. (Weld)	Depth of Casing or Liner Top Bottom O! 114 vell to be abandoned, , Range.	Feet of Casing 134 give location:	Type of Shoe	Perfor From 701	ations , 1]
No. 5 3. Casing Record: Diameter In inches 6"OD 4. If above constru of Section date of plugging date of plugging JUN 30 1955	Pounds Threads per it. per inch 9# Vict. (Weld) 	Depth of Cashing or Liner Top Bottom Ol 114: vell to be abandoned, Range 	Feet of Casing 114 give location:	Type of Shoe	Ferfor From 701	ations ,

Log of Well: Depth in feet From To Thickness in feet Description of Formation 01 1: 1: Soil ]: 201 19 Caliche & Rock 201 48 281 Sandst one 481 1131 651 Water Sands 113 1' Red Bed & Red Rock 114' LS Elev Depth to K_ .Trc Elev of K Tro 12.33.2.1132 PBU 1 Loc. No. Field Check Hydro. Survey SOURCE OF ALTITUDE GIVEN Interpolated from Topo. Sheet 📈 Determined by Inst. Leveling____ 2.00 n taan s Other t I. ŧ •

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

W. H. H sward (K. M.) Licensed Well Driller

12.33. 2. 113

#### Instructions

L- 2165

# WELL RECORD

-1139 File No.

INSTRUCTIONS: This form should be typewritten, and filed in the office of the State Engineer, P. O. Box 1079, Santa Fe, New Mexico, or in the office of the Artesian Well Supervisor, Roswell, New Mexico. Section 5 should be answered only if an old artesian well has been plugged. All other sections should be answered in full in every case, regardless of whether the well drilled is shallow or artesian in character. This report must be subscribed and sworn to before a Notary Public.

.

	Owner of we	n Georg	je F. Lj	vernoi	e.	
	Street and N	umber				
NWNE	Post Office	Lubbock	. Texas	3		
	Well was dri	lled under H	Permit No			and
	is located in	theSW	<u>1/1 SW</u>	······································	1	4 of Section2
	Township	125		Range	3	30
	Drilling Cant	na story (17	ande Ta	tum		
	Drilling Cont	ractor9.1	n. (de 34 n.)xts (yd <del>yb</del> . Fr	&.V.MAIA	•••••••••••••••••••••••••••••	
(Plat of 640 Acres)	Street and N	fumber				·····
Locate Well Accurately	Post Office			· · · ·		·
Drilling was commenced	e sea level	19 Dri	lling was co	mpleted		, 19
State whether well is shallow or artesia	an					
Total depth of wellfo	eet. Water leve	l upon comp	pletion of w	ell		feet below land surface.
Sec. 2	PRINCIPAL	WATER-BE	ARING STR	ATA		
No. 1, from to	, Thick	ness in feet		, Fori	mation	
No. 2, from to		ness in feet		, Fori	mation	
No. 3, from tq	, Thick	ness in feet		, Form	mation	
No. 4, from to	, Thick	ness in feet		, Form	nation	
No. 5, from to	, Thick	ness in feet		, Fori	nation	
Sec. 3	REC	ORD OF C	ASING			
Diameter Pounds Threads	Name of	Feet of	Type of	Perfor	ated	Purpose
in Inches per Foot per Inch	Manufacturer	Casing	Shoe	From	TO	- <b>- p</b> • <b>b</b> •
	······································					· · · · ·
						,,
Sec. 4	RECORD OF M	UDDING A		NTING		
Sec. 4	RECORD OF M	UDDING A Methods Us	AND CEME	NTING Specific	e Gravity	Tons of
Sec. 4 Diameter of Number of S Hole in Inches of Cemen	RECORD OF M	UDDING A		NTING Specific of	e Gravity Mod	Tons of Clay Used
Sec. 4           Diameter of Hole in Inches         Number of S of Cemen	RECORD OF M	UDDING A Methods Us	AND CEME	NTING Specific of	e Gravity Mud	Tons of Clay Used
Sec. 4           Diameter of Hole in Inches         Number of S of Cemen	RECORD OF M	UDDING A	AND CEME	NTING Specific of	e Gravity Mud	Tons of Clay Used
Sec. 4           Diameter of Hole in Inches         Number of S of Cemen	RECORD OF M	UDDING A	AND CEMEN	NTING Specific of	e Gravity Mad	Tons of Clay Used
Sec. 4           Diameter of Hole in Inches         Number of S	RECORD OF M	UDDING A Methods Us	AND CEMEN	NTING Specific of	e Gravity Mod	Tons of Clay Used
Sec. 4 Diameter of Number of S Hole in Inches of Cemen Sec. 5	RECORD OF M	Nethods Us RECORD (	AND CEMER red	NTING Specific of	e Gravity Mad	Tons of Clay Used
Sec. 4          Diameter of Hole in Inches       Number of S of Cemen         Sec. 5       Vell is located in the	RECORD OF M Sacks t PLUGGING	Nethods Us RECORD (	AND CEMEN	NTING Specific of	e Gravity Mad	Tons of Clay Used
Sec. 4          Diameter of Hole in Inches       Number of S of Cemen         Sec. 5       V'ell is located in the	RECORD OF M sacks t PLUGGING ¼ ugging contracto	Nethods Us RECORD ( 	AND CEMER Hed DF OLD WR Section	NTING Specific of	e Gravity Mud	Tons of Clay Used
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Sec. 4           Diameter of Hole in Inches         Number of S of Cemen           Sec. 5         Sec. 5           V'ell is located in the         ¼           Range         Name of plastreet and Number.           Tons of clay used         Sec. 5	RECORD OF M sacks tt PLUGGING 4 ugging contracto Tons of rougha	Nethods Us RECORD ( 	AND CEMER Hed DF OLD WR Section A Office a plugging ap	NTING Specific of ELL ELL Type oproved by	e Gravity Mad AHTESIAN BOSWI TOWN	Tons of Clay Used
Sec. 4          Diameter of Hole in Inches       Number of S of Cemen         Sec. 5         V'ell is located in the         Range       Name of pl         Street and Number         Tons of clay used         Cement plugs were placed as follows:         No. 1 was placed at	RECORD OF M sacks t PLUGGING ¼ ugging contracto Tons of rougha	UDDING A Methods Us RECORD ( 	AND CEMEN ied DF OLD WI Section it Office	NTING Specific of ELL ELL	e Gravity Mad Antresian ROSWI of rough Artesian	Tons of Clay Used
Sec. 4          Diameter of Hole in Inches       Number of S of Cemen         Sec. 5         V'ell is located in the         Range       Name of pl         Street and Number         Tons of clay used         Cement plugs were placed as follows:         No. 1 was placed at	RECORD OF M sacks t PLUGGING 4 ugging contracto Tons of rougha	Nethods Use Nethods Use RECORD ( 	AND CEMER sed DF OLD WI Section a plugging an aber of sacks ber of sacks	VTING Specific of ELL ELL oproved by of cement	e Gravity Mud AHTELIAN ROSWI , Town of rough Artesian ; used	Tons of Clay Used
Sec. 4         Diameter of Hole in Inches       Number of S of Cemen         Sec. 5         V'ell is located in the       ¼         Range       Name of pl         Street and Number       Tons of clay used         Cement plugs were placed as follows:       No. 1 was placed at         No. 2 was placed at       No. 3 was placed at	RECORD OF M sacks it PLUGGING ½ ugging contracto Tons of rougha	Nethods Un Methods Un RECORD ( 	AND CEMEN and DF OLD WI Section a plugging ap aber of sacks aber of sacks	NTING Specific of ELL ELL oproved by of cement of cement	antesian of rough Artesian used	Tons of Clay Used
Sec. 4         Diameter of Hole in Inches         of Cemen         Sec. 5         V'ell is located in the         Xampe         Name of plus         Street and Number         Tons of clay used         Cement plugs were placed as follows:         No. 1 was placed at         No. 2 was placed at         No. 3 was placed at         No. 4 was placed at	RECORD OF M sacks t PLUGGING 4 ugging contracto Tons of rougha	Nethods Use Methods Use RECORD ( 	AND CEMER Hed DF OLD WE Section A Office a plugging an aber of sacks aber of sacks aber of sacks aber of sacks	VTING Specific of ELL Type oproved by of cement of cement of cement	e Gravity Mud AllTislian NOSWI of rough Artesian used used	Tons of Clay Used
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Sec.	6
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FROM (Depth in Feet)	TO (Depth in Feet)	THICKNESS IN FEET	CLASSIFICATION OF FORMATION
	10		<u> Cleeche &amp; Rock</u>
10	18		Rock
8			Hard Rock
22	50		Sandstone
55	1.30		Water Sands
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Notary Public

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SUBSCRIBED AND SWORN TO BEFORE ME this June 22 nd day of , A.D., 19.5./

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My Commission Expires.

Ĵ U.C. Signed. 2 Z Position. τź

Street and Number_

Post Office.

### Revised June 1972

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STATE ENGINEER OFFICE
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WELL RECORD

			Beetion 1. OLIN		KMATION .				•
A) Owner of v	vell <u>Ame</u>	rada Hess	Corp.		Comria	Owne	er's Well No	<u></u>	
Street or P City and S	ost Office Ad	m, New Me:	xico 8826	57 <u>vell</u>	Service	<u>, inc.</u>		<u></u>	
Well was drilled u	inder Permit	No. <u>L-10,</u>	231	an	d is located i	n the:			
a. <u>SE</u>	¼ <u>NW</u> ¼	SW 1/2 NE	_ ¼ of Section _	27	Fownship <u>1</u> 2	<u>2-S.</u> Ra	nge <u>33–</u> E	•	_N.M.
b. Tract N	0	of Map No		_ of the	· · · · · · · · · · · · · · · · · · ·	······			
c. Lot No. Subdivi	sion recorded	of Block No	••••••••••••••••••••••••••••••••••••••	of the					
d X=		feet V=		feet N.M.	Coordinate Si	rstem			7.05
the									G1
B) Drilling Co	ntractorG	lenn's Wat	er Well S	<u>Service</u>	, Inc.	License No	WD 421		
Address P.C	. Box 6	92 Tatum,	New Mexic	:0 882	67				
Drilling Began	11-18-9	<u> </u>	ted <u>11-18-</u>	<u>.91</u> T	ype tools <u>1</u>	otary	Size of l	hole_9_	7/8
Elevation of land	l surface or _			at well is.		ft. Total depth	n of well	34	
Completed well	is 🛣 sł	nallow 🗆 arte	sian.	Deŗ	oth to water i	pon completion	n of well	42	
	- Tact	Sectio	n 2. PRINCIPAL	WATER-B	EARING STE	RATA			
From From	To	in Feet	Descrip	tion of Wat	er-Bearing Fc	rmation	Estim (gallons	ated Y per m	ield inute)
66	134	68	sand		,			100	
		·							
			Section 3. R	ECORD OF	CASING		<u> </u>		
Diameter (inches)	Pounds per foot	Threads per in.	Depth in Fee Top Bc	ottom	Length (feet)	Type of Sh	oe Fr	Perfora om	ations To
6 5/8	.219		1 134	+	134	,, <u></u>		56	13
		+							
		<u> </u>	<u></u>						
	- Epst	Section	4. RECORD OF	MUDDINC	G AND CEME	ENTING			
Depth in From	1 Feet To	Section Hole Diameter	4. RECORD OF Sacks of Mud	F MUDDINC Cubic of Ce	G AND CEME S Feet Sement	ENTING Meth	od of Placem	nent	
Depth in From	1 Feet To	Section Hole Diameter	4. RECORD OF Sacks of Mud	F MUDDINC	G AND CEME	ENTING Meth	od of Placem	nent	
Depth in From	1 Feet To	Section Hole Diameter	4. RECORD OF Sacks of Mud	F MUDDINC Cubic of Ce	G AND CEME Servert	ENTING Meth	od of Placem	nent	
Depth in From	1 Feet To	Section Hole Diameter	4. RECORD OI Sacks of Mud	F MUDDIN( Cubic of Ce	G AND CEME	NTING Meth	od of Placem	ient	
Depth in From	1 Feet To	Section Hole Diameter	4. RECORD OI Sacks of Mud Section 5. P	F MUDDIN( Cubic of Ce	G AND CEME	NTING Meth	od of Placem	lent	
Depth in From Plugging Contra Address	1 Feet To tor	Section Hole Diameter	4. RECORD OF Sacks of Mud Section 5. P	F MUDDIN( Cubic of Ce	G AND CEME Sement RECORD	Denth in	nod of Placem		bic Fe
Depth in From Plugging Contra Address Plugging Method Date Well Plugging	1 Feet To tor	Section Hole Diameter	4. RECORD OF Sacks of Mud Section 5. P	F MUDDIN( Cubic of Ce	G AND CEME es Feet ement RECORD	NTING Meth Depth in Top	n Feet Bottom	Cu of	bic Fee Cemer
Depth in From Plugging Contra Address Plugging Methoo Date Well Plugg Plugging approv	tor i ctor i cd ed by:	Section Hole Diameter	4. RECORD OF Sacks of Mud Section 5. P	F MUDDIN( Cubic of Ce	G AND CEME Servent RECORD No. 1 2	ENTING Meth Depth in Top	n Feet Bottom	Cu of	bic Fe Cemer
Depth in From Plugging Contra Address Plugging Method Date Well Plugg Plugging approv	n Feet To tor i ed by:	Section Hole Diameter	4. RECORD OF Sacks of Mud Section 5. P	F MUDDIN( Cubic of Ce	G AND CEME S Feet Sment RECORD No. 1 2 3 4	ENTING Meth Depth in Top	n Feet Bottom	Cu of	bic Fe Cemer
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Depth in From Plugging Contra Address Plugging Method Date Well Plugg Plugging approv	n Feet To To ctor i ed by: November	Section Hole Diameter State Engin : 25, 1991	4. RECORD OI Sacks of Mud Section 5. P eer Representativ FOR USE OF S'	F MUDDIN( Cubic of Ce UUGGING	G AND CEME E Feet Ement RECORD - - No. - - 1 2 - 3 4 INEER ONLY	ENTING Meth Depth in Top	n Feet Bottom	Cu of FSL_	bic Fee Cemer

			Section 6. LOG OF HOLE				
Depth	in Feet	Thickness in Feet	Color and Type of Material Encountered				
From	10	mreet					
0	3	3	soil				
3	28	25	caleche				
28	42	14	sand and rock				
42	134	92	water sand				
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Section 7. REMARKS AND ADDITIONAL INFORMATION

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	STATE CLUE N ROSNELL, N

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The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole. ez.

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. Al ons, except Section 5, shall be answered as completely and accurate possible when any well is drilled, repaired or deepen i.en this form is used as a plugging record, only Section 1(a) and Section id be completed.

they are

Driller

1.00

# WELL RECORD

Dat	e of Receipt	)et. 12, 1	951		Per	mit No. <u>L-1</u>	282
	Name of permittee	, Amerad	a Petrolei	un Corporat	ion		
Stre	et or P.O.,	well Star	Route	, City and State	. Tatum, N	ow Mexico	
1. `	Well location and	description: The	shallow	well is l	ocated in	14. N	E 4.
			(shallow or an	tesian)		·····	
-	¹ / ₄ of	f Section	, Townshi	p	Range 33	; Elevation	of top of
0	casing above sea l	_{evel,} Not lano	Wifeet; diameter	of hole,8	inches; tota	al depth, <u>122</u>	feet;
Ì (	depth to water upo	n completion,	55feet; d	lrilling was comm	nencedOcta		19 <b>51</b> ,
8	and completed. Oc	t. 11	, 19 <b>51</b>	; name of drillin	ng contractor	laudo Tetu	<u>m</u>
5	24 W Washin	iston ; Add	_{ress,} <u>Loving</u> t	on, New Me	<b>xico</b> ; Driller'	s License No. WD	33
2. 3	Principal Water-be	aring Strata:					
	Depth i	n Feet			· · ·	•	
	No. 1	то то Э	Thickness	Desci	ription of Water-bea	ring Formation	<u> </u>
 1	No. 2		0(		<u>at rea sa</u>	na	
	No. 3						
	No. 4			· · · · · · · · · · · · · · · · · · ·	;	·······	
]	No. 5					,	
3. (	Casing Record:				•		
3. (	Casing Record: Diameter Pour	nds Threads	Depth of Casing or )	Liner Feet of	Mine of Shoe	Perforati	0 <b>15</b>
3. (	Casing Record: Diameter Pour in Inches per	nds Threads ft. per inch	Depth of Casing or ) Top Bot	Liner Feet of tom Casing	Type of Shoe	Perforati From	ons To
<b>3</b> . (	Casing Record: Diameter Pour in inches per 7 2	nds Threads ft. per inch	Depth of Casing or ) Top Bot	Liner Feet of tom Casing	Type of Shoe	Perforati From 90	ons To 122
3. (	Casing Record: Diameter Pour in inches per 7 2	nds Threads it. per inch	Depth of Casing or J Top Bot	Liner Feet of tom Casing 22 122	Type of Shoe NOTIO	Perforati From 90	^{ons} To
3. (	Casing Record: Diameter Pour in inches per 7 2	nds Threads ft. per inch	Depth of Casing or 1 Top Bot	Liner Feet of tom Casing	Type of Shoe	Perforati From 90	ons To
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3. (	Casing Record: Diameter Pour in Inches per 7 2	nds Threads ft. per inch	Depth of Casing or ) Top Bot	Liner Feet of tom Casing	Type of Shoe	Perforati From 90	
3. (	Casing Record: Diameter Pour in inches per 7 2 7 2	nds Thrends ft. per inch O <u>10</u>	Depth of Casing or 1 Top Bot	Liner Feet of tom Casing 22 1.22 ed, give location:	Type of Shoe None	Perforati From 90 AR 17 1352 AR 17 1352 AR 17 1352	
3. ( - 	Casing Record: Diameter Pour in inches per 7 2 17 2 16 above construction of Section	nds Threads ft. per Inch O <u>10</u> 	Depth of Casing or 1 Top Bot	Liner Feet of tom Casing 22 122 ed, give location: Lange	Type of Shoe None	Perforati From 90 AP 17 302 AP 17 40 AP	
3. (	Casing Record: Diameter Pour in Inches Per 7 2 7 2 1f above construction of Section	nds Threads ft. per inch O 10	Depth of Casing or ) Top Bot	Liner Feet of fom Casing 22 1.2.2 ed, give location: tange	Type of Shoe Mono Dooise not name and addr	Perforati From 90 AP 17 352 AP 17 35	ons To 122
3. (	Casing Record: Diameter Pour in inches per 7 2 7 2 If above construction of Section	nds Thrends ft. per inch O 10 	Depth of Casing or 1 Top Bot	Liner Feet of tom Casing 22 122 ed, give location: tange	Type of Shoe None	Perforati From 90 4P 17 332 4P 17 32 4P 17 4 4P	ons To 122
3. (	Casing Record: Diameter Pour in inches Per 7 2 7 2 If above construction of Section	nds Threads ft. per Inch O 10	Depth of Casing or ) Top Bot	Liner Feet of Cnsing 22 122 ed, give location: Lange	Type of Shoe None	Perforati From 90 AP 17 332 AP 17 34 AP 17 4 AP 17	ons To I22
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3. (	Casing Record: Diameter Pour per 7 2 7 2 If above construction of Section	nds Threads ft. per Inch O 10	Depth of Casing or ) Top Bot	Liner Feet of tom Casing 22 122 ed, give location: tange; describe ho	Type of Shoe None	Perforati From 90 AP 17 332 AP 17 332 AP 17 332 AP 17 332 Sector Control PP 17 332 Sector Control PP 17 332 Sector Control Sector Control Sector Control Sector Control Sector Control Sector Control Sector Control Sector Control Sector Control Sector Control Sector Control Sector Control Sector Control Sector Control Sector Control Sec	ons To 122
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3. (	Casing Record: Diameter Pomper 7 2 7 2 If above construction of Section	nds Thrends ft. per inch O 10 on replaces old w 	Depth of Casing or J Top Bot	Liner Feet of Casing 22 122 ed, give location: tange; describe ho	Type of Shoe None Door Tion ; name and add w well was plug F ARTESIA ROSW	Perforati From 90 AP 17 352 AP 17 352 AP 17 352 SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARVE SUPARV	ons To 122

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5. Log of Well:

Depth in feet From Thickness in feet то Description of Formation 1. 10 - - -0 1 1 Soil . . . *. .* . è 1 14 13 Caliche 14 17 3 Hard veek 17 55 38 Sandstone 5655 122 67 Water sands *...* ٠. .

M..... The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and cor-

rectorecord of the above described well.

Ster St. F

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Licensed Well Driller laude

Instructions

FIELD ENGR. LOG

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(This form to be executed in triplicate)

# WELL RECORD

Date of Receipt	in the second			······································	Permi	t No	170
Name of permit	tee,	- Contonin		årsg-Pene			
treet or P.O.,	<u></u>		, Cit	y and State	The first over The	27.	
. Well location ar	nd description: The		<u></u>	well is loc:	ated in		
		(shallow o	or artesian)			· · ·	<b>1941 (1973)</b>
	of Section	, Town	lship	, R	ange	; Elevatio	on of top of
casing above sea	a level, Linkson a	feet; diame	eter of hol	e,	inches; total	depth,	feet;
depth to water u	ipon completion,	fee	et; drilling	was comme	nced	<u></u>	, 19
and completed	they the	, 19	jaii; nam	e of drilling	contractor	anda Med	
<u>jeli i And</u>	Add	ress,	İ Martaniya İ Martaniya	171 8.13 2 2 4 10 2 4 10	; Driller's I	license No	and the second
. Principal Water	-bearing Strata:						
Dep	th in Feet			Deschol	1	<b>1</b> 71	
No. 1	10	TRICKHESS		Descript	ion of water-bearing	g cormation	
No. 2		 683		<u> </u>			<u> </u>
No. 3			·		<u> </u>		······································
No. 4							
No. 5					·	•	
. Casing Record:	Υ.,	•.					
Diameter 1 In inches	Pounds Threads per ft. per Inch	Depth of Casing Top	or Liner Bottom	Feet of Casing	Type of Shoe	Perfor From	ations To
<u>6 as</u>	in Frank			<b>1</b> 16	<u>73. XIO</u>		110
				14			
				***************************************			
······			•••••••		· · · · · · · · · · · · · · · · · · ·		
If above constru	ction replaces old w	rell to be aban	doned, giv	e location:	<u> 1960 1771 - 19</u>	<u>199 By</u>	an Iy 4
of Section	, Township		, Range	·····;	name and addres	s of plugging	; contractor,
				******			
					NTERIL W P	1. 	
date of plugging	ç	, 19	; (	lescribe how	well was plugged	1:	
			· ·		<u>, 10</u>	- 1960. 1960.	, , , , ,
				·	and Markey and St.		int pr

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5. Log of Well:

Depth From	in feet To	Thickness in feet	Description of Formation
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ang Shat Lan Baa Maggada	P		Souls bonn
45	210		alter service
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The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

áı usso Well Driller

Instructions

# WELL RECORD

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Date of Receipt			Permi	t No L-1291	
Name of permittee	J. T. Acr	ey	· · · · · · · · · · · · · · · · · · ·		
Street or P.O.,	Gen. Del.	, City a	nd state Tatum, New	w Mexico	
1. Well location and	description: The	Shallow (shallow or artesian)	well is located in		i,
NW4 of	Section 12	., Township 12	S, Range	; Elevation of top c	f
casing above sea le	evel,feet	; diameter of hole,	7	1epth,90_fee	;
depth to water upor	n completion,	feet; drilling wa	as commenced	Oct. 21 , 19 53	., 51
and completed	Oct.	229 51; name (	of drilling contractor. Ab	bott Bros.	
	; Address, J	Box 637, Hot	bs., N., M.; Driller's 1	license No. WD-46	
2. Principal Water-be	aring Strata:				
_ Depth h	n Feet				
No. 1 55	$\frac{T_0}{Q_0}$ $3^{1}$	kness	Description of Water-bearing	; Formation	_
No. 2			Waber Janu		
No. 3					_
No. 4				•	
No. 5				<u>.</u>	
NONE.				· · · · · · · · · · · · · · · · · · ·	
		······			
			······		•••
4. If above construction	on replaces old well to	be abandoned, give l	ocation:		4
of Section	, Township	, Range	; name and addres	s of plugging contracto	r,:
	• • •				· ,
date of plugging		, 19; des	cribe how well was plugged	FEB 18 1952	D
Well #2	on Photo Hol	sbs 3-2-14	ARI	OFFICE ESIAN WELL SUPERVI OSWELL, NEW MERICO	SOR
1001				>> 14 124	<b>Г</b> . Н.

Depth in feet From Thickness in feet To Description of Formation 0 2 2 Soil u ł, 2 18 20 Caliche .... 20 55 35 Caliche & Sand 55 90 35 Water Sand 0  $\langle$ ٢. .

5. Log of Well:

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well. ABBOTT BROS.

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Ву: 2 Ce L Licensed Well Driller

Instructions

## WELL RECORD

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Street or Þ.O	•,	Dre	awer D	, City and Stat	teMa	onument	New Me	xico
1. Well loca	tion and des	cription: The	shallow or artest	well is located	1 in	<u>NW 14</u>	s	ŚE
	SE 1/4 of	Section #11	L, Town	ship 12-S	i , Range	3 <b>3-</b> E	; Elevati	( on of to
casing ab	ove sea leve	1, 42401	feet; diameter	of hole, 12-3/	4"inches;	i total dept	th, <b>130</b>	1
depth to .	water upon c	ompletion,	401	drilling was comm	nenced	May 2	25	, 19 <b>L</b>
and comp	leted	May 27	19.49	name of drilling co	i ontractorEc	iward B.	Burke	1
215 E	. Skelly	; Ad	ldress. Hobbs	s, New Mexico	ן 	l riller's Lice	nse No. W	D-111
2. Principal	Water-beari	ng Strata:	•		1	ſ		1 -
<b></b>	Depth in	Feet						
No. 1	From	To	Thickness	Desc	eription of Wat	er-bearing Fo	rination	
No. 2	901	1281	381	Wa	ater Sand	1		
No. 3					<b></b>			
 No. 4								
				· · · · · · · · · · · · · · · · · · ·				
No. 5 3. Casing R Diameter in Inches 10-3/	ecord: r Pounds per it. 4 ¹¹ 40.57	Threads per Inch	Depth of Casing or Top B	Liner Feet of ottom Casing 301 130!	Type of t	Shoe	Perfora From 1001	^{tions} To
No. 5 3. Casing R Diameter in Inches 10-3/	ecord: r Pounds per ft. 4 ¹¹ 40.57	Threads per Inch	Depth of Casing or Top B	Liner Feet of ottom Casing	Type of ; None:	Shoe	Perfora From	^{tions} To
No. 5 3. Casing R Diameter in Inches 10-3/	ecord: Pounds perft. 4 ⁿ 40.57	Threads per Inch	Depth of Casing or Top B	Liner Feet of ottom Casing	Type of ; None:	Shoe	Perfora From	tions To
No. 5 3. Casing R Diameter in Inches 10-3/	ecord: pounds per it. 4 ⁿ 40.57	Threads per inch	Depth of Casing or Top B	Liner Feet of ottom Casing 301 130!	Type of t	Shoe	Perfora From	^{tions} To 1261
No. 5 3. Casing R Diameter in Inches 10-3/	ecord: r Pounds per ft. 4 ⁿ 40.57	Threads per Inch	Depth of Casing or Top B	Liner Feet of ottom Casing	Type of ; None:	Shoe	Perform From	tions To
No. 5 3. Casing R Diamete in Inches 10-3/	ecord: Pounds perft.	Threads per Inch	Depth of Casing or Top B	Liner Feet of ottom Casing	Type of i	Shoe	Perfora From	tions To
No. 5 3. Casing R Diameter in Inches <u>10-3/</u> 4. If above	ecord: Pounds per ft. 4 ¹¹ 40.5 ⁴	Threads per Inch	Depth of Casing or Top B	Liner Feet of ottom Casing .301 130!	Type of f	Shoe	Perfora From	^{tions} To
INO. 5         3. Casing R         Diameter         in Inches         10-3/         4. If above of Section	ecord: r Pounds per ft. 4 ¹¹ 40.57	Threads per Inch <b>SVI</b> replaces old v	Depth of Casing or Top B Q?	Liner Feet of Casing .301 130! med, give location: ange	Type of ; None:	Shoe	Perfora From 1001 	tions To 1261
1NO. 5 3. Casing R Diameter in Inches 10-3/ 4. If above of of Section	ecord: Pounds per ft. 4 ¹¹ 40.57 construction	Threads per Inch 8VT replaces old v , Township.	Depth of Casing or Top B <b>Q</b> ?	Liner Feet of Casing 301 1301 oned, give location: ange	Type of ; None	Shoe	Perfora From 1001 	tions To 1261
1NO. 5 3. Casing R Diameter in Inches <u>10-3/</u> 4. If above of Section	ecord: Pounds per ft. 4 ¹¹ 40.57 construction	Threads per Inch <b>8VT</b> replaces old v , Township.	Depth of Casing or Top B <b>Q? ]</b> well to be abando	Liner Feet of ottom Casing .301 130!	Type of : None: 	Shoe	Ferfora From 1001	tions To 1261
<ul> <li>10. 5</li> <li>3. Casing R</li> <li>Diameter in Inches</li> <li>10-3/</li> <li>4. If above of Section</li> <li>date of p</li> </ul>	ecord: Pounds per ft. 4 ¹¹ 40.57 construction	Threads per Inch 8VT replaces old v , Township.	Depth of Casing or Top B O? ] well to be abando , Re	Liner Feet of Casing 301 1301 oned, give location: ange; describe how	Type of : None ; name and well was plu	Shoe 	Perform From 1001	tions To 1261
<ul> <li>10. 5</li> <li>3. Casing R</li> <li>Diameter in Inches</li> <li>10-3/</li> <li>4. If above of Section</li> <li>of Section</li> <li>date of p</li> </ul>	ecord: Pounds per ft. 4 ¹¹ 40.5 ⁴ construction	Threads per Inch 8VT replaces old v	Depth of Casing or Top B Q? ]	Liner Feet of ottom Casing .301 1301 oned, give location: ange; describe how	Type of : None: ; name and well was plu	Shoe 	Perfora From	tions To 1261
No. 5         3. Casing R         Diameter         In Inches         10-3/	ecord: Pounds per ft. 4 ¹¹ 40.57 construction	Threads per Inch <b>8VT</b> replaces old v , Township.	Depth of Casing or Top B O? ] well to be abando 	Liner Feet of Ottom Casing .301 130!	Type of : None: ; name and well was plu	Shoe 	Perform From 1001	tions To 1261
INO. 5         3. Casing R         Diameter         In Inches         10-3/	ecord: Pounds per ft. 4 ¹¹ 40.5 ⁴ construction	Threads per Inch 8VT replaces old v , Township.	Depth of Casing or Top B Q? well to be abando , Ra	Liner Feet of ottom Casing .301 130!	Type of ; None: 	Shoe 	Perform From 1001	tions To 1261
A. If above of Section date of p	ecord: Pounds Porft. 4 ¹¹ 40.5 ⁴ construction blugging Vell	Threads per Inch E SVT replaces old v , Township.	Depth of Casing or Top B Q1 1 well to be abando , Ra , 19 , 19 , 19 , 19 , 19 , 19 , 19 , 3 - 3 - 24	Liner Feet of Octom Casing 301 1301	Type of i None: , name and well was plu	Shoe Markate	Perfora From	tions To 1261
A. If above of Section date of p	ecord: Pounds per ft. 4 ¹¹ 40.57 construction blugging	Threads per Inch # 8VT replaces old v , Township.	Depth of Casing or Top B 0? ] well to be abando Re Re 19 19 19 19 19 19 19	Liner Feet of Ottom Casing .301 130!	Type of i None: ; name and well was plu	Shoe 44, address of 1gged: 	Perform From 1001	tions To 1261

Denherrs Los

Ed. B. B. Joke

5/25 27 / 49

Log of Well: · · · · · · · · Thickness in feet Depth in feet From То Description of Formation 1; 01 11 Top Soil 291 Caliche ], 301 30* 601 301 White Clay 601 Hard Sand - Shells 801 201 801 901 101 Red Clay Water Sand 901 1281 381 21 Red Bed & Red Rock 1281 130' . 1-2073 ſ 12, 33, 11, 24/ 1 14 L S Elev Depth to K_ _Trc_ Trc. K Elev of . Loc. No. Field-Check Hydro, Survey_ 1 1 ..... 1 ١ SOURCE OF ALTITUDE GIVEN Interpolated from Topo. Sheet Determined by Inst. Leveling_ Other

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and cor-

rect record of the above described well.

Edward B. Burko (16. M

Instructions

# WELL RECORD

L-1287 File No.....

INSTRUCTIONS: This form should be typewritten, and filed in the office of the State Engineer, P. O. Box 1079, Santa Fe, New Mexico, or in the office of the Artesian Well Supervisor, Roswell, New Mexico. Section 5 should be answered only if an old artesian well has been plugged. All other sections should be answered in full in every case, regardless of whether the well drilled is shallow or artesian in character. This report must be cubscribed and sworn to before a Notary Public.

	· Owner of we	nGeorge	P. Li	vermot	3		
Street and Number							
NWNEN	Post Office	Lubbo	ock, Te	xas			
	Well was dri	lled under F	Permit No.	1-	1287	and	
is located in the Centery NW 1/2 NE 1/2 of Section 11							
is located in the <u>CAUCI</u> WW 4 of Section <u>11</u>							
SW	Township		1 D.	, Range		12 <b>%</b>	
	Drilling Cont	ractorAt	DOTT B	rother	5		
(Plat of 640 Acros)	Street and N	umber	·····				
Locate Well Accurately	Post Office	Hobl	s, New	Mexico	2		
Drilling was commenced 22nd		19. <b>5.1</b> Dri	lling was co	mpleted	22nd_	0ct., 1951	
Elevation at top of casing in feet above State whether well is shallow or artesiz	an Shall	.OW				-,	
Total depth of well	eet. Water leve	l upon comp	letion of w	e11	5f	eet below land surface.	
Sec. 2	PRINCIPAL	WATER-BEA	ARING STR	ATA	,		
No. 1, from	O, Thick	ness in feet	65	, Form	nationS	and	
No. 2, from to	, Thick	ness in feet		, Fori	nation	· .	
No. 3, from to	, Thick	ness in feet		, Forr	nation	· · · · · · · · · · · · · · · · · · ·	
No. 4, from to	, Thick	ness in feet		, Forr	nation		
No. 5, from to	, Thick	ness in feet		, Forr	nation		
Sec. 3	REC		ASING		+-		
DiameterPoundsThreadsin Inchesper Footper Inch	Name of Manufacturer	Feet of Casing	Type of Shoe	Perform From	To	Purpose	
711		130		100	130		
						· · · · · · · · · · · · · · · · · · ·	
Sec. 4	RECORD OF M	UDDING A	ND CEME	NTING			
Diameter of Number of S. Hole in Inches of Cement	acks t	Methods Us	ed	Specific	Gravity Mod	Tons of Clay Used	
				F			
						Lane loss	
		····			C	CT 26 1951	
Sec. 5	PLUGGING	RECORD		:11		OFFICE	
Well is located in the			ection		ARTESIAL	N WELL SUPERVISOR	
Range Name of plu	ugging contracto	)r		 			
Street and Number		Pos	t Office				
Tons of clay used	Tons of rougha	ge used		Туре	of rougha	ge	
		Was	plugging al	proved by	Artesian V	Vell Supervisor?	
Cement plugs were placed as follows:							
No. 1 was placed at		feet. Num	ber of sacks	of cement	used		
No. 2 was placed at		feet. Num	ber of sacks	of cement	used		
No. 3 was placed at		feet. Num	ber of sacks	of cement	used		
No. 4 was placed at		feet Num	per of sacks	of comeant	hand		
No. 5 was placed at		fact NT	box cf = -1	of cement	used		

In RR ILLIIN

## LOG OF WELL

6	LOG			
FROM (Depth in Feet)	TO (Depth in Feet)	THICKNESS IN FEET	CLASSIFICATION OF FORMATION	
0	2	2	Soil	
2	28	26	Caliche	
28	58	30	Packed Sar	
58	65	7	Hard shell	
65	130	65	Water Sand	
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I, Clyde Abbott for Abbott Bros. , do solemnly swear that, to the best of my knowledge and belief, the foregoing information is a true and correct record of the well for which report is hereby made, insofar as can be determined from all available records.

., A.D., 19.51

SUBSCRIBED AND SWORN TO BEFORE ME this

_24th

Signed. 4 A Partner

Position...

day of October hearman W 2 2 Notary Public My Commission Expires Sept. 26, 1953

Street and Number_

Post Office Hobbs, New Mexico

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# WELL RECORD

WLLL RECORD
Date of Receipt Permit No. 1287
Name of permittee, George P. Livermore, Inc.
Street or P.O.,Box 191, City and State Lubbock, Texas
1. Well location and description: The Shallow
(shallow or artesian)
consing choice are level
Plugging
depth to water upon completion,feet; XIXIX was commenced
and completedNotember 4, 19.52.; name of drilling contractorAbbott Brothers
P.O. Box 637; Address,Hobbs, New Mexico ; Driller's License No. WD-46
2. Principal Water-bearing Strata:
Depth in Feet From To Thickness Description of Water-bearing Formation
No. 1 4! Concret plug set 2! below surface on rubble filled bol
No. 2
No. 3
No. 4
No. 5
3. Casing Record:
Diameter Pounds Threads Depth of Casing or Liner Feet of Perforations
in inches per it, per inch Top Bottom Cusing Type of Shoe From To
······································
4. If above construction replaces old well to be abandoned, give location:
of Section; name and address of plugging contractor
Abbott Brothers, P.O. Box 637; Hobbs, New Mexico
and a start of the second second second second second second second second second second second second second s The second second second second second second second second second second second second second second second sec
date of plugging

plug set 2' below surface on rubble filled hole

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5. Log of Wel	1:		e in the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second s
Depth i From	n feet	Thickness in feet	Description of Formation
······			
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n stylin i sitt. An k	si to yn	ange bee et	<ul> <li>A set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of</li></ul>
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· · · · · · · · · · · · · · · · · · ·	<u>.</u>	······	

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

92 1 C 3 26 3

and Co hea 1 by: Licensed Well Driller ţ des. Instructions

# WELL RECORD

INSTRUCTIONS: This form should be typewritten, and filed in the office of the State Engineer, P. O. Box 1079, Santa Fe, New Mexico, or in the office of the Artesian Well Supervisor, Roswell, New Mexico. Section 5 should be answered only if an old artesian well has been plugged. All other sections should be answered in full in every case, regardless of whether the well drilled is shallow or artesian in character. This report must be subscribed and sworn to before a Notary Public.

File No.

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			Own	er of we	n	Ulle	Le (	<u>I</u>	Co,	<b></b>
			Street and Number							
N.W	/	N.E	-NE Post Office danse Man Melico							
	!!		Well	was dril	led under	125	Quate	1 2001	Paroi 2	geed.
				ontail in	$ \leq 1 $	N. S	È v	1/	3	u
	19 50176 - 33 EAST									
Sh	SWSE									
			Dril	ling Cont	ractor	1 1 1 1 0		70	Seed of	
	Plat of 640	Acres)	J Stre	et and N	umber	14/1	-02U/	IC X	<u> </u>	····
Loca	ate Well Ac	curately	Post	Office	Lence	Contraction of the second		<u>IUU</u>	- marcia	Ser
Drilling was	commenced	g in fast abo	vo seo le	, " wal	19	lling was co	mpleted	and the second		Ι.
State whether	r well is sha	allow or artes	jan	Sela	lleel				· · · · · · · · · · · · · · · · · · ·	
Total depth o	of well,	<u>70</u>	feet. W	ater level	l upon comp	oletion of w	ell. 57	?fe	et below land surface	е.
Sec. 2	<i>K</i> - 4		PRIN	CIPAL \	WATER-BE	ARING STR	ATA		The Car	1
No. 1, from		بو to	9.5	, Thick	ness in feét	<u>~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~</u>	, For	mation	TTO CA SUSCE	¶
No. 2, from	<i>f0</i>	to	<i>U</i>	, Thick	ness in feet		, For	mation	un sur	-7
No. 3, from		tq		, Thick	ness in feet		, For	mation		
No 5 from				Thick	ness in feet		For	mation		••
Sec. 3				REC	ORD OF C	ASING	, 2017			
Diamatan	Downda	Threads	No	ma of	Test of					-)
in Inches	per Foot	per Inch	Manu	ifacturer	Casing	Shoe	From	To	Purpose	
6	Jug	1 af	113	cal	90	Hond	50	90		
		-		`						
			•				· · ·			
Sec. 4			RECOR	D OF M	UDDING A	ND CEMEN	NTING			-'
Diamete	er of	Number of	Sacks		Mothoda Ta		Specific	: Gravity	Tons of	]
Hole in J	Inches	of Ceme	nt				<b>9</b>	Mad	Clay Used	
								ara -95 muno	SER.60*	
							MAY	<u>9.2 (35</u>		
							<u>¥0</u>	FICE		
	<u> </u>					<u>————————————————————————————————————</u>	(EELAN W) KOSWELL,	ELL SUPER NEW MERI	Uson   Co	]
Sec. 5	ted in the	14	PL	JGGING	KECORD (	DF OLD-WE	:::::::::::::::::::::::::::::::::::::::	Towns		
Range		Name of j	lugging	contracto	or			, 10wite		·,
Street and N	Street and Number									
Tons of clay used										
					Was	plugging ap	proved by	Artesian V	Vell Supervisor?	
Cement plugs	were place	ed as follows	:							
No. 1 was pla	iced at				feet. Num	ber of sacks	of.cement	used		<b></b> .
No. 2 was pla	iced at			••••••••••••••••	feet. Num	ber of sacks	of cement	used		••
No 4 was pla	ced at				reet.' Num	ber of sacks	of cement	: used		••
No. 5 was pla	iced at.	, 			feet. Num	ber of secks	of cement	used	·····	-
2 pro	(over)									

1-1105

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Sec.	6

FROM (Depth in Feet)	TO (Depth in Feet)	THICKNESS IN FEET	CLASSIFICATION OF FORMATION
$\mathcal{O}$		1	Soil and
1	5-	4	line Rock
5-	2.5-	20	Palietes
25-	50	- 23-	Free Sand
5-0	78	28	9Pater & and
78	90	19	Griffe & ana
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No. 1997	· •		

I, ______, do solemnly swear that, to the best of my knowledge and belief, the foregoing information is a true and correct record of the well for which report is hereby made, insofar as can be determined from all available records.

SUBSCRIBED AND SWORN TO BEFORE ME this

Signed. Position 1 Ge. d. Street and Number... Ullan Post Office. C.r.

Notary Public

My Commission Expires.....

### Form WR-23

Section 1

## FIELD ENGR. LOG

#### STATE ENGINEER OFFICE

## WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

(A) Owner of well American Fet. Corp.
Street and NumberRoswell Star Route
City Yatum, State New Mozico
Well was drilled under Permit No. <u>1-1241</u> [14] and is located in the <u>SW 14 NE 14 SW 14 of Section 3 Twp. 125 Rge. 33E</u> (B) Drilling Contractor <u>0. R. Mussionhite</u> License No. <u>WD99</u>
City State New Mexico
Drilling was commenced 19 65
Drilling was completed 18, 19.65

(Plat of 640 acres)

Elevation at top of casing in feet above sea level Unkown Total depth of well 119 State whether well is shallow or artesian Shallow Depth to water upon completion 50

Section	2

### PRINCIPAL WATER-BEARING STRATA

No	Depth in Feet		Thickness in	Description of Water-Bearing Formation				
110.	From	То	Feet					
1				Cleaned out.				
2								
3								
4				. *				
5								

Section 3 RECORD OF CASING									
Dia Pounds in. ft.	Pounds	Pounds Threads Depth			pth Freet		Perforations		
	in	Top	Bottom	reet	Type pupe	From	То		
6 5/8	32	Nene	0	119	119	<b>新OTI®</b>	90	119	
							-		
		· · ·							

Section 4 RECORD OF MUDDING AND CEMENTING							
Depth in Feet		Diameter	Tons	No. Sacks of			
From	То	Hole in in.	Clay Cement		Methods Osed		
					······································		
				· ·			
	das.				··		

Section 5

#### PLUGGING RECORD

Name of Plugging Contractor	License No.	:
Street and Number City	State	
Tons of Clay used		
Plugging method used	Date Plugged	19
Plugging approved by:	Cement Plugs were placed as follows:	

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# Cement Plugs were placed as follows:

Basin Supervisor	No.	From	То	No. of Sacks Used
FOR USE OF STATE ENGINEER ONLY				
Date Received			· · · · · · · · · · · · · · · · · · ·	
1965 MAY 28 AM 8: 11		·····		
File No. $h = 1241(1)$ Use $d$	$\omega_{i}$	/)L	ocation No.	(2.33.3,323

OMA D.L

		LOG	OF WELL				
Depth in Feet     Thickness     Color       From     To     Gamma feet       3     6     Gamma feet		Color	Type of Material Encountered				
			Cement plug				
			Glaaned out to 119 ft.				
		· · ·					
	-	······					
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	a Feet To	Feet       Thickness         To       5         S       5         S       5         S       5         S       5         S       5         S       5         S       5         S       5         S       5         S       5         S       5         S       5         S       5         S       5         S       5         S       5         S       5         S       5         S       5         S       5         S       5         S       5         S       5         S       5         S       5         S       5         S       5         S       5         S       5         S       5         S       5         S       5         S       5         S       5         S       5         S       5	LOG C				

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

ell Driller

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# WELL RECORD

Date of Receipt	an.11, 19	51		Permit No. 4-1334
Name of permittee,	Anorada	Petroloum	Corporatio	m
Street or P.O.,	swell Sta	r Route	, City and State	Tatum, New Nexaco
1. Well location and o	description: The	shallow (shallow or art	well is loc esian)	cated in <u>NE</u> <u>4</u> , <u>NW</u> <u>4</u> ,
¼ of	Section	, Township		Range; Elevation of top of
casing above sea le	vel,Not Ino	Meet; diameter	of hole, 8	inches; total depth,125feet;
depth to water upor	a completion;	<b>68</b> feet; d	rilling was comme	enced
and completed	en. 10	, 19. <b>.5</b> 2	; name of drilling	contractor. Claude Tatura
521 W. Washin	g <b>tim</b> ; Add	ress,Loving	ton, N. M.	; Driller's License No
2. Principal Water-be	aring Strata:		· · ·	· · ·
Depth in From	1 Feet To	Thickness	Descrit	tion of Water-bearing Formation
No. 1 70	125		We ti sin	າ ອອກທີ
No. 2			X, ((), (), (), (), (), (), (), (), (), (	00
No. 3				:
No. 4				
 No. 5				
In Inches per	ft. per inch	Top Bott	om Casing	Type of Shoe From To
			. :	•
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	·····	· · · ·		
		na an an an an an an an an an an an an a	· · · · · · · · · · · · · · · · · · ·	and the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second sec
4. If above construction	n replaces old w	ell to be abandone	ed, give location <b>O</b>	es not, apply Nev Well 4
of Section	, Township	, R	ange;	name and address of plugging contractor,
	na an an an an an an an an an an an an a			
••,•••				1 MAR 17 1852 -
date of plugging		, 19	; describe how	well was plugged:
аланан алан алан алан алан алан алан ал				
· · · · · · · · · · · · · · · · · · ·				
		· · · · · · · · · · · · · · · · · · ·		FEB 18 1952
1231			the second second	OFFICE ARTESIAN WELL SUPERVISOR
		المنتي ال	n marina da Canada	1743 – BELINSIM RELLE, PERCUNI NA RESETATION († 1997). 1997 – Alexandre Alexandre, service († 1997). 1997 – Alexandre Alexandre († 1997).

Depth From	In feet To	Thickness in feet	Description of Formation
	· · · · ·		
	<u> </u>		SOLA
20	20		Caliche
			Sandstone
7.0	125		Watorsanus
		· · ·	<u>la construcción de la construcc</u>
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The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

11 ell Driller

Instructions

This form shall be executed, preferably typewritten, in triplicate and filed with the State Engineer's Office at Roswell, New Mexico, within 10 days after drilling has been completed. Data on water-bearing strata and on all formations encountered should be as complete and accurate as possible.

2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 20000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 20000 -

14.5 18 1952

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# WELL RECORD

	<u>و   ⊥ •000</u>	1951		Permit No. 2 - 12 2/1
Name of permittee	_{e, Amerada}	Patroleum (	lorporation	L
Street or P.O., ROS	well Star	Route,	City and StateT	atum Mew Mexico
1. Well location and	description: The	shallow (shallow or artesia	well is locate	d in
	of Section	3, Township	12 S, Ran	ge
casing above sea l	_{level,} not knc	WHeet; diameter of	hole,	inches; total depth, 120 feet;
depth to water upc	on completion,		ng was commence	ed Oct. 15
and completed	0ct.1	6 , 19 51 ; n	ame of drilling co	ntractor Claude Tatum
524 W Washin	gton ; Addi	ress, Lovingto	on, N. M.	; Driller's License NoWD33
2. Principal Water-b	earing Strata:			· · · ·
Depth f From	in Feet	Thickness	Description	of Water-bearing Formation
^{No. 1} 50	120	70	White	sandstone
No. 2				
No. 3				
No. 4				
No. 5				
The sector The			<b>TD</b> ( <b>A</b>	
Diameter Fou in inches per	inds Threads ft. per inch 20 10	Depth of Casing or Liner Top Bottom 120	Feet of Casing	Type of Shoe From To none 80 120
Diameter Pou in inches per	inds Threads ft. per inch 20 10	Depth of Casing or Liner Top Bottom 120	Feet of Casturg 120	Type of Shoe From To none 80 120
Diameter Pou in inches per	ands Threads ft. per inch 20 10	Depth of Casing or Liner Top Bottom 120	Feet of Casing	Type of Shoe From To none 80 120
Diameter Fou in inches per 7	ands Threads ft. per inch 20 10	Depth of Casing or Liner Top Bottom 120	Feet of Casing	Type of Shoe From To none 80 120
Diameter Pou in inches Por	ands Threads ft. per Inch 20 10	Depth of Casing or Liner Top Bottom 120	Feet of Casing	Type of Shoe From To none 80 120
Diameter Pou in inches Per 	ands Threads ft. per inch 20 10	Depth of Casing or Liner Top Bottom 120	Feet of Casing 120 give locatio	Type of Shoe From To none 80 120
Diameter Fou in inches Pou 7 	ands Threads ft. per inch 20 10	Top Bottom 120 120 rell to be abandoned, fature relevant to the relevant t	Feet of Casing 120 give location e; nal	Perforations         Type of Shoe       From       To         none       80       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       120
Diameter Fou in inches Pou 7 	inds Threads ft. per inch 20 10 	Depth of Casing or Liner Top Bottom 120	Feet of Casing 120 give location e; nan	Type of Shoe From To none 80 120 1/AE 17 552 1/AE 17 552 NOT APPLY Weilly mot Apply Weilly
Diameter Pou in inches Pou 7 	ands Threads ft. per inch 20 10 	Depth of Casing or Liner Top Bottom 120	Feet of Casing 120 give location e; nai	Type of Shoe From To none 80 120
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Diameter Fou in inches Pou 7	inds Threads ft. per inch 20 10 10 10 10 10 10 10 10 10 10	Pepth of Casing or Liner Top Bottom 120	Feet of Casturg 120 give location O.O.S. e; nau describe how we	Type of Shoe From To <u>none 80 120</u>
Diameter Pou in inches per 7 	inds Threads ft. per inch 20 10	Pepth of Casing or Liner Bottom 120	Feet of Casturg 120 give location	Type of Shoe       Perforations         none       80       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       120         120       120       12
Diameter Pou in inches per 7 	ands Threads ft. per inch 20 10 Non replaces old w	Pepth of Casing or Liner Top Bottom 120 Pell to be abandoned, Rang 	Feet of Casing 120 give location e; nan describe how we	Type of Shoe       Performing To         none       80       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120
Diameter Pou in inches per 7 	inds Threads ft. per inch 20 10	Pepth of Casing or Liner Top Bottom 120 ell to be abandoned, , Rang	Feet of Casing 120 give location e; nan describe how we	Type of Shoe       From       To         none       80       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120         120       120

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5. Log of Well:

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	Depth From	in feet To	Thickness in feet	Description of Formation
	0	2	2	soil
	2	12	10	caliche
	12	15	3	Hard rock
· . 	15	50	35	sand stone
	50	120	70	water sands
	<u>.</u> *			
		<u> </u>		
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<u> </u>				
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The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

U Licensed Well Driller

**.**.

Instructions

## PLUGGING WELL RECORD

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Nome	of normitte	Amerada I	AOTOTOUT AOT	-			
Street or	́Р.О.,	Drawer D	·	, City and State	Monument,	New Mexi	co
1. Well	location and	description: The	shallow	well is located	inSE	<b>5</b> . ₁₄ ,	SE
	<b>-</b> - 14	of Section #2		12 <b>_</b> S	, Range 33-E	; Eleva	tion of top
casing	g above sea	level, 42301	feet; diameter o	f hole,7"	inches; total d	lepth, <b>13</b> 0	)†
depth	to water up	on completion,	401 feet; dr	illing was comme	enced	lay 14	, 19. <b>.5</b>
and co	ompleted	May 16	, 19. <b>51</b> ; na:	me of drilling con	tractor G.L. Shel	ton,	
Lo	vington	; Add	ress, <u>New</u>	Mexico	; Driller's I	License No.	
2. Princi	ipal Water-be	earing Strata:	•			-	
	Dept From	th in Feet To	Thickness	Descri	iption of Water-bearing	; Formation	
No. 1	451	1301	851	Water	Sand		
No. 2							
No. 3					-		
No. 4					•		•
No. 5	<u> </u>		· · · · · · · · · · · · · · · · · · ·				
3. Casin Dia in fi 6!	g Record: meter Po nches pe	nunds Threads fr ft. per inch W Vict.	Depth of Casing or Lir Top Botto 01 130	ter Feet of Casing	Type of Shoe None	Perfo From 8 <b>5 î</b>	To
3. Casin Diai in fr	g Record: meter Po nches pe	winds Threads for it. per inch	Depth of Casing or Lir Top Botto 01 130	Nor Feet of Casing	Type of Shoe None	Perfo From 851	To 125
3. Casin Dia in h 61	g Record: meter Po nches pe OD 9	nunds Threads fr ft. per inch	Depth of Casing or Lir Top Botto 01 130	Nor Feet of Casing 1 1301	Type of Shoe None	Perfo From 85 <b>1</b>	To 1251
3. Casin Dia in fr 6!	g Record: meter Po nches pe *OD 9	winds Threads in fit. per inch	Depth of Casing or Lir Top Botto 01 130	Nor Feet of Casing 1 1301	Type of Shoe	Perfo From 85 <b>1</b>	To 125t
3. Casin Dia in h 61	g Record: meter Po Po Po Po Po Po Po Po Po Po	wunds Threads or ft. per inch W Vict.	Depth of Casing or Lir Top Botto 01 130	ter Feet of Casing 1 1301	Type of Shee	Perfc From 85 <b>*</b>	To 1251
<ol> <li>Casin Dia in in 6^t</li> <li>4. If abo</li> </ol>	g Record: meter Po nches pe OD 9	cion replaces old we	Depth of Casing or Lir Top Botto Of 130	ter Feet of Casing 1301 d, give location:	Type of Shoe	Perfo From 851	To 125t
<ol> <li>Casin</li> <li>Diation</li> <li>Diation</li> <li>61³</li> /ol>	g Record: meter Po nches pe OD 9 we construct stion	winds Threads For ft. per inch	Depth of Casing or Lir Top Botto 01 130	ter Feet of Casing 1 1301 d, give location:	Type of Shoe	Perfo From 851	g contract
<ol> <li>Casin Diamin in in 6¹⁷</li> <li>6¹⁷</li> <li>6¹⁸</li> <li></li></ol>	g Record: meter Po POD 9 POD  unds Threads per inch W Vict. Wict. Cion replaces old we Township.	Depth of Casing or Lir Top Botto 01 130 ell to be abandone , Rang Hobbs, New	Aer Feet of Casing 1 1301 d, give location: ge; Mexico	Type of Shoe None	Perfo From 85 ¹ 	g contract	
<ol> <li>Casin Diamin in in 6¹</li> <li>6¹</li> <l< td=""><td>g Record: meter Po pe POD 9 POD 9 we construct etion</td><td>unds Threads per inch W Vict. Vict.</td><td>Depth of Casing or Lir Top Botto 01 130</td><td>ter Feet of Casing 1301 d, give location: re; Mexico</td><td>Type of Shoe</td><td>Perfo From 851</td><td>g contract</td></l<></ol>	g Record: meter Po pe POD 9 POD 9 we construct etion	unds Threads per inch W Vict. Vict.	Depth of Casing or Lir Top Botto 01 130	ter Feet of Casing 1301 d, give location: re; Mexico	Type of Shoe	Perfo From 851	g contract
<ol> <li>Casin</li> <li>Diamin in in</li> <li>6¹</li> <li>6¹<td>g Record: meter Po pe OD 9 OD 9 we construct tion. F. McAda of plugging</td><td>unds Threads per inch W Vict. W Vict.</td><td>Depth of Casing or Lir Top Botto 01 130 ell to be abandone , Hobbs, New 12, 19.52</td><td>ter Feet of Casing 1301 d, give location: re; Mexico</td><td>Type of Shoe None </td><td>Perform 85 f </td><td>g contract</td></li></ol>	g Record: meter Po pe OD 9 OD 9 we construct tion. F. McAda of plugging	unds Threads per inch W Vict. W Vict.	Depth of Casing or Lir Top Botto 01 130 ell to be abandone , Hobbs, New 12, 19.52	ter Feet of Casing 1301 d, give location: re; Mexico	Type of Shoe None 	Perform 85 f 	g contract
<ol> <li>Casin Diamin in in 6^t</li> <li>6^t</li> <l< td=""><td>g Record: meter Po nches pe OD 9 OD 9 we construct tion. F. McAda of plugging. iled. Fou</td><td>nunds Threads per inch Wict. Wict. ion replaces old we Township ms, Box 1716 April hr sacks of cu</td><td>Depth of Casing or Lir Top Botto 01 130 ell to be abandone , Rang Hobbs, New 12, 19.52 enent ware s</td><td>ter Feet of Casing 1301 d, give location: fe; Mexico .; describe how w potted in bo</td><td>Type of Shoe None </td><td>Perfo From 851 </td><td>rations To 1251</td></l<></ol>	g Record: meter Po nches pe OD 9 OD 9 we construct tion. F. McAda of plugging. iled. Fou	nunds Threads per inch Wict. Wict. ion replaces old we Township ms, Box 1716 April hr sacks of cu	Depth of Casing or Lir Top Botto 01 130 ell to be abandone , Rang Hobbs, New 12, 19.52 enent ware s	ter Feet of Casing 1301 d, give location: fe; Mexico .; describe how w potted in bo	Type of Shoe None 	Perfo From 851 	rations To 1251
<ul> <li>Casin</li> <li>Diamin in in</li> <li>6ⁿ</li> <li>4. If aboon of Second J.</li> <li>date of multiple second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second sec</li></ul>	g Record: meter Po neches pe OD 9 OD 9 we construct tion. F. McAda of plugging iled. Fou iled, pac	ion replaces old we burg, Threads Vict. W Vict. Con replaces old we Dion	Depth of Casing or Lir Top Botto 01 130 ell to be abandone , Hobbs, New 12, 19.52 enent ware s red. Locatio	ter Feet of Casing 1301 1301 d, give location: re; Mexico ; describe how w potted in bo n was cleane	Type of Shoe None 	Perform 851 	yrations To 1251
<ul> <li>3. Casin</li> <li>Dianin in in</li> <li>6¹⁷</li> <li>6¹⁷</li> <li>4. If above of Second J.</li> <li>date of Mathematical Second J.</li> <li>date of Pul</li> <li>fil</li> </ul>	g Record: meter Po neckes pe OD 9 OD 9 we construct tion F. McAda of plugging. iled. Fou iled, pac	winds Threads per inch W Vict. W Vict. tion replaces old we , Township. ms, Box 1716 April April April	Depth of Casing or Lir Top Botto 01 130 ell to be abandone , Rang , Hobbs, New 12, 19.52 ement ware s red. Locatio	ter Feet of Casing 1301 d, give location: re ; Mexico .; describe how w potted in bo n was cleane	Type of Shoe None - 4, name and address vell was plugged: ittom of hole,	Perfo From 85 ¹ 	yrations To 1251 g contract was as
<ol> <li>Casin Diamin in in 6¹⁰</li> <li>6¹⁰</li> <li>6¹¹</li> <li>6¹²</li> <li>6¹²</li> <li>6¹²</li> <li>6¹³</li> <li>6¹⁴</li> <li>16¹²</li> <li>16¹²</li> </ol>	g Record: meter Po neckes pe OD 9 OD 9 we construct tion. F. McAda of plugging lled. Fou illed, pac	winds Threads per inch	Depth of Casing or Lir Top Butto 01 130 ell to be abandone , Rang , Hobbs, New 12, 19.52 enent ware s red. Locatio	ter Feet of Casing 1301 d, give location: re; Mexico ; describe how w potted in bc n was cleane	Type of Shoe None 	Perfo From 85 ¹ 	rations To 1251
<ol> <li>Casin Diamin in in 6^t</li> <li>6^t</li> <l< td=""><td>g Record: meter Po pe OD 9 OD 9 we construct tion. F. McAda of plugging iled. Fou lled, pac</td><td>winds Threads per inch Wict. Wict. ion replaces old we , Township. ms, Box 1716 April ir sacks of core</td><td>Depth of Casing or Lir Top Botto 01 130 ell to be abandone , Rang Hobbs, New 12, 19.52 enent ware s red. Locatio</td><td>ter Feet of Casing 1301 d, give location: re; Mexico .: describe how w potted in bo n was cleane</td><td>Type of Shoe None </td><td>Perfe From 85 i </td><td>rations To 1251 g contract was as</td></l<></ol>	g Record: meter Po pe OD 9 OD 9 we construct tion. F. McAda of plugging iled. Fou lled, pac	winds Threads per inch Wict. Wict. ion replaces old we , Township. ms, Box 1716 April ir sacks of core	Depth of Casing or Lir Top Botto 01 130 ell to be abandone , Rang Hobbs, New 12, 19.52 enent ware s red. Locatio	ter Feet of Casing 1301 d, give location: re; Mexico .: describe how w potted in bo n was cleane	Type of Shoe None 	Perfe From 85 i 	rations To 1251 g contract was as
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Depth i From	n íeet To	Thickness in feet	Description of Formation
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andra Robert - Maria - Maria -			
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The undersigned hereby certifies that, to the best of his knowledge and belief, the foreg is a true and correct record of the above described well.

20C Þ . a D. C. Capps **Excernance** Dist. Supp., Amerada Pet. Corp. Instructions

RECORD L

Flle No. 1-1129

INSTRUCTIONS: This form should be typewritten, and filed in the office of the State Engineer, P. O. Box 1079, Santa Fe, New Mexico, or in the office of the Artesian Well Supervisor, Roswell, New Mexico. Section 5 should be answered only if an old artesian well has been plugged. All other sections should be answered in full in every case, regardless of whether the well drilled is shallow or artesian in character. This report must be subscribed and sworn to before a Notary Public.

	, , , , , , , , , , , , , , , , , , , ,		Own	er of we	u <u>Amor</u> r	ula ^o t	. Comp			
	•		Stre	et and N	lumber					
N.W		N.E	- Post	Office	Noswel.	L	<u>pt n</u>	o bun,	n Mox.	•••••
			Well	l was dri	lled under 1	Permit No		1129	7	and
			is lo	ocated in	the	<u>4.5</u>	E 14 8	5E 4	of Section Z	
SW			Tow	nship]	2		, Range	33 🗉		
		·	Dril	ling Cont	ractor(]	laudo12	etun			•••••••
	<u>_</u>		Stre	et and N	Tumber					
(Pl Loca	lat of 640 . te Well Ac	Acres) curately	Post	t Office						
Drilling was o	commenced	May 1	1	·····,	19.51 Dri	lling was co	ompleted	May 15	, 1	9 51
Elevation at t	op of casin	g in feet abo	ve sea le	vel						
State whether	well is sha	llow or artes	ian	1allos	ſ					
Total depth o	of wellZ	00	.feet. W	ater leve	l upon com	pletion of v	vell	f	eet below land su	irface.
Sec. 2	45	8	PRIN	CIPAL	WATER-BE	ARING ST	RATA	. L.	at So O	
No. 1, from	- <u>-</u>	to	2 0	, Thick	ness in feet	<u> </u>	, For	mation	alland	0
No. 2, from	<u> </u>	to/0	<u>.</u>	, Thick	iness in feet	50	, For	mation	purch on	X
No. 3, from		tg		, Thick	ness in feel		, For	mation	U	
No. 4, from		to		, Thick	cness in feet		, For	mation		
No. 5, from	·····	to	·····	, Thick	tness in feet		, For	mation		
Sec. 3				REC	ORD OF C	ASING				
Diameter	Pounds	Threads	Na	me of	Feet of	Type of	Perfor	ated	Purpose	
in inches	per Foot	per inch	Manu	ifacturer	Casing	Shoe	From	01	••••••••••••••••••••••••••••••••••••••	
7"					130		139	105	· ·	
Sec. 4			RECOR	ND OF W	UDDING A	AND CEME	NTING			
Diamete	er of	Number of	Sacks				Specifi	c Gravity	Tons of	)
Hole in I	nches	of Ceme	nt		Methods U	sed	of	Mud	Clay Used	
							•			
		······································					¥: 77.50	资 同	ALL REAL	
L		·····		L						
Sec. 5			PL	UGGING	RECORD	OF OLD W	ELL			
Well is locat	ed in the.		·····	1/4	¼ of :	Section		tinvie. Town	ship the restriction of	,
Range		Name of j	plugging	contract	or			1949 ISTONO 141	199 LANA 199	
Street and N	umber				Pos	st Office				
Tons of clay	used		. Tons o	of rougha	ge used		Тур	e of rough	age	
				••••••	Wa	s plugging a	pproved by	Artesian	Well Supervisor?	
Cement plugs	were plac	ed as follows	:							
No. 1 was pla	.ced at				feet. Nun	ber of sack	s of cemen	t used		**********
No. 2 was pla	.ced at				feet. Num	ber of sack	s of cemen	t used		
No. 3 was pla	ced at	4 			feet. Nun	nber of sack	• s of cemen	t used		
No. 4 was pla	iced at				feet. Nur	iber of each	s of camer	t used	,	
No. 5 wee pla	red at		ł		feat Num	ber of real-	a of some	t used		
					(nvor)	or sack	- or cemen	, <u>,,</u> ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
					(0 + 21 )					

1-1129

## 12.33.2.440

Sec.	6
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LOG OF WEL

FROM (Depth in Feet)	TO (Depth in Feet)	THICKNESS .	ASSIFICATION OF FORMATION
0	3.		Soil
3	25		Colloabis
25	1:12		Sonderan
1.5	Qin		tentras Casta
	<b>7</b> 0.0		
	1.384		<u> </u>
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			· · · · · · · · · · · · · · · · · · ·
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Karide I, <u>longettan</u>, do solemnly swear that, to the best of my knowledge and belief, the foregoing information is a true and correct record of the well for which report is hereby made, insofar as can be determined from all available records. atu

E---

Cer.

SUBSCRIBED AND SWORN TO BEFORE ME this

Signed. C ., A.D., 195 27 day of une Position. early Notary Public Street and Number..... l 28,196,0 My Commission Expires. Post Office.

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# WELL RECORD

Date of I	ReceiptDe	∋c 9 1051			Permi	It No. 2 - 133
Name	e of permitte	e, Amera	la Petrol	eum Corporat	ion	
Street or	P.O., ROS	swell Sta	r Route	, City and State	Tatum, New	v Mexico
1 Well	location and	description . T	ha shallow	well is lo	neated in 1995 S	W 1/ SEE 1
			(shallow	or artesian)		
	¹ ⁄4 (	of Section	Town	nship	Range <u>33</u> E	; Elevation of top o
casing	; above sea	level, Not kno	OWN Teet; diam	eter of hole,8	inches; total	depth,110 fee
depth	to water upo	on completion,	<u>55</u>	et; drilling was comn	ienced Dec a	19.51
and c	ompletedE	DecL	, 19	51 ; name of drillin	g contractor.Cls	ude Tatum
524 V	V Washir	ngton ; Ad	ldress,	ngton, New Me	exuco Driller's I	License No. WD33
2 Princi	inal Water-h	earing Strata.				•
Z. Filler	ipai Water-D					
	Depth From	In Feet	Thickness	Descr	iption of Water-bearin	g Formation
No. 2	25 	55	30	Sandsto	one	:
No. 3	55		55	Quicks	ands	
No. 4	<i>i</i> /0	115	5	WAters	iand	
No. 5					1977 - A. A. B. B. L	
<u></u>		) 		n na an an an an an an an an an an an an		
3. Casing	g Record:					
3. Casin; Diar in in	g Record: neter Poi iches per	unds Threads r ft. per inch	Depth of Casing Top	or Liner Fect of Bottom Casing	Type of Shoe	Perforations From To
3. Casin; Diar in in	g Record: neter Poi nches per 6 <b>%</b>	unds Threads r ft. per inch 15 None	Depth of Casing Top	or Liner Feet of Bottom Casing	Type of Shee	Perforations From To
3. Casing Diar in in	g Record: noter Pou leches per 678	unds Threads r ft. per inch 15 None	Depth of Casing Top	or Liner Feet of Bottom Casing	Type of Shoe	Perforations From To
3. Casin; Diar in in 	g Record: neter Poi netes per 6 9	unds Threads per inch 15 None	Depth of Casing Top	or Liner Feet of Bottom Casing	Type of Shoe	From To
3. Casin; Diar in in 	g Record: neter Pot heres per 6 1/8	unds Thrends r ft. per inch 15 None	Depth of Casing Top	or Liner Fect of Bottom Casing	Type of Shoe	Perforations From To
3. Casin; Diar in in 	g Record: neter Poinches per 6 18	unds Threads r ft. per inch 15 None	Depth of Casing Top	or Liner Feet of Bottom Casing	Type of Shoe	Perforations From To
3. Casin; Diar in in 	g Record: neter Point ches per 6 18	unds Threads per inch 15 None	Depth of Casing Top	or Liner Feet of Bottom Casing	Type of Shoe	From To
<ol> <li>Casing Diar in in</li> <li></li></ol>	g Record: neter Poi per 6 1/8	unds Threads r ft. per inch <u>15 None</u>	Depth of Oasing Top	or Liner Feet of Bottom Casing	Type of Shoe None	Perforations From To
<ol> <li>Casing Diar in in</li> <li></li></ol>	g Record: neter Point for the per- for the test of the test of the test of the test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test of test	unds Threads r ft. per inch <u>15 None</u> 	Depth of Oasing Top well to be abar	tor Liner Bottom Casing 115 115 ndoned, give location: , Range.	Type of Shoe None Does not addres	Perforations From To 80 115
<ol> <li>Casing Diar in in</li> <li></li></ol>	g Record: neter Point here per 6 1/8 ove construct ction	unds Threads r ft. per inch <u>15 None</u> 	Depth of Casing Top well to be abar ip	or Liner Feet of Bottom Casing	Type of Shoe None Does not addres	Perforations From To 80 116
<ol> <li>Casing Diar in in</li> <li></li></ol>	g Record:	unds Threads per inch <u>15 None</u> 	Depth of Oasing Top well to be abar ip	or Liner Feet of Bottom Casing 110 110 ndoned, give location: , Range	Type of Shoe None	Perforations From To 80 115 
<ol> <li>Casing Diar in in</li> <li></li></ol>	g Record: neter Poi 6 1/8 ove construct ction	unds Threads per inch <u>15 None</u>	Depth of Casing Top	tor Liner Feet of Bottom Casing 110 110 ndoned, give location: , Range	Type of Shoe None	Perforations From To 80 115 
<ol> <li>Casing Diar in in</li> <li>Diar in in</li> <li></li></ol>	g Record: neter Point 6 1/8 ove construct ction	unds Threads r ft. per inch <u>15 None</u>	Depth of Oasing Top well to be abar ip, 16	or Liner Feet of Bottom Casing 115 115 ndoned, give location: , Range; describe hor	Type of Shoe None Does not a ; name and addres w well was plugge	Perforations From To 80 115 80 215 9019 4 New Well ss of plugging contracto
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<ol> <li>Casing Diar in in</li> <li>Diar in /li> <li>Diar i</li></ol>	g Record: neter Poi per 6 1/8 ove construct ction	unds Threads per inch <u>15 None</u>	Depth of Casing Top	or Liner Feet of Bottom Casing 110 110 ndoned, give location: , Range; describe ho	Type of Shoe None Does not a ; name and addres w well was plugge	Perforations From To 80 115 80 115 9ply 4 New Well as of plugging contracto d: 18 1952
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Depth From	in feet To	Thickness in feet	Description of Formation
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6	25	-5 19	caliche
- 25	55	30	sandstone
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Jahr 2 Licensed Well Driller

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Instructions

This form shall be executed, preferably typewritten, in triplicate and filed with the State Engineer's Office at Roswell, New Mexico, within 10 days after drilling has been completed. Data on water-bearing strata and on all formations encountered should be as complete and accurate as possible.

15 1952 - Liaw Hamito Alto Lizzo -

# APPENDIX C



# Analytical Report

Prepared for: Dale Littlejohn

R.T. Hicks Consultants Ltd.- Midland P.O. Box 7624 Midland, TX 79708

Project: Samson State BD No. 4 Project Number: L-126-5 Location: Lea Co., NM

Lab Order Number: 6E16008

Report Date: 06/22/06

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### Project: Samson State BD No. 4 Project Number: L-126-5 Project Manager: Dale Littlejohn

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1 9'	6E16008-01	Soil	05/08/06 10:09	05/16/06 15:45
MW-1 19'	6E16008-02	Soil	05/08/06 10:30	05/16/06 15:45
MW-1 29'	6E16008-03	Soil	05/08/06 10:50	05/16/06 15:45
MW-1 34'	6E16008-04	Soil	05/08/06 11:10	05/16/06 15:45
MW-2 9'	6E16008-05	Soil	05/09/06 12:20	05/16/06 15:45
MW-2 19'	6E16008-06	Soil	05/09/06 12:45	05/16/06 15:45
MW-2 29'	6E16008-07	Soil	05/09/06 13:30	05/16/06 15:45
MW-2 34'	6E16008-08	Soil	05/09/06 13:55	05/16/06 15:45
MW-2 39'	6E16008-09	Soil	05/09/06 14:20	05/16/06 15:45
MW-1	6E16008-10	Water	05/12/06 10:25	05/16/06 15:45
MW-2	6E16008-11	Water	05/12/06 11:00	05/16/06 15:45

## General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 9' (6E16008-01) Soil				······		<u> </u>			
Chloride	49.4	1.00	mg/kg	2	EE61902	05/18/06	05/18/06	EPA 300.0	
MW-1 19' (6E16008-02) Soil									
Chloride	7.86	1.00	mg/kg	2	EE61902	05/18/06	05/18/06	EPA 300.0	
MW-1 29' (6E16008-03) Soil									
Chloride	3.38	1.00	mg/kg	2	EE61902	05/18/06	05/18/06	EPA 300.0	
MW-1 34' (6E16008-04) Soil	<u></u>								
Bromide	ND	0.100	mg/kg	2	EE61905	05/18/06	05/18/06	EPA 300.0	
Chloride	5.02	1.00	"	"	EE61902	05/18/06	05/18/06	11	
MW-2 9' (6E16008-05) Soil	<u></u>		Martin			<u></u>			
Chloride	9.99	1.00	mg/kg	2	EE61902	05/18/06	05/18/06	EPA 300.0	
MW-2 19' (6E16008-06) Soil								· · · · · · · · · · · · · · · · · · ·	·····
Chloride	7.30	1.00	mg/kg	2	EE61902	05/18/06	05/18/06	EPA 300.0	
MW-2 29' (6E16008-07) Soil									·
Chloride	8.27	1.00	mg/kg	2	EE61902	05/18/06	05/18/06	EPA 300.0	
MW-2 34' (6E16008-08) Soil									
Chloride	7.77	1.00	mg/kg	2	EE61902	05/18/06	05/18/06	EPA 300.0	
MW-2 39' (6E16008-09) Soil									
Bromide	0.187	0.100	mg/kg	2	EE61905	05/18/06	05/18/06	EPA 300.0	
Chloride	12.0	1.00	н	"	EE61902	05/18/06	05/18/06	11	
MW-1 (6E16008-10) Water									
Bromide	0.482	0.0500	mg/L	1	EE61705	05/17/06	05/17/06	EPA 300.0	
Chloride	131	5.00	"	10	EE61704	05/17/06	05/17/06	11	
Total Dissolved Solids	838	5.00	11	1	EE61718	05/17/06	05/17/06	EPA 160.1	

Environmental Lab of Texas

### Project: Samson State BD No. 4 Project Number: L-126-5 Project Manager: Dale Littlejohn

## General Chemistry Parameters by EPA / Standard Methods Environmental Lab of Texas

Analyte MW-2 (6E16008-11) Water	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bromide	0.446	0.0500	mg/L	1	EE61705	05/17/06	05/17/06	EPA 300.0	
Chloride	44.5	2.50	"	5	EE61704	05/17/06	05/17/06	н	
Total Dissolved Solids	530	5.00	н	1	ÉE61718	05/17/06	05/17/06	EPA 160.1	

Environmental Lab of Texas

General C	hemistry Par	ameters Environn	by EF	PA / Sta Lab of	nd Ta	lard Me	ethods ·	· Qual	ity Cor	ntrol	
											<u>.</u>
Analyte	Result	Reporting Limit	Units	Spike		Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EE61704 - General Preparatio	n (WetChem)										
Blank (EE61704-BLK1)				Prepared	&	Analyzed:	05/17/06				
Chloride	ND	0.500	mg/L								
LCS (EE61704-BS1)				Prepared	&	Analyzed:	05/17/06				
Chloride	10.1	0.500	mg/L	10.0			101	80-120			
Calibration Check (EE61704-CCV1)				Prepared	&	Analyzed:	05/17/06				
Chloride	10.2		mg/L	10.0			102	80-120			
Duplicate (EE61704-DUP1)	Sour	ce: 6E16004	-04	Prepared	&	Analyzed:	05/17/06				
Chloride	26200	250	mg/L			25800			1.54	20	
Matrix Spike (EE61704-MS1)	Sour	ce: 6E16004	-04	Prepared	&	Analyzed:	05/17/06				
Chloride	31700	250	mg/L	5000	_	25800	118	80-120			
Batch EE61705 - General Preparatio	n (WetChem)										
Blank (EE61705-BLK1)				Prepared	&	Analyzed:	05/17/06				
Bromide	ND	0.0500	mg/L	·							
LCS (EE61705-BS1)				Prepared	&	Analyzed:	05/17/06				
Bromide	1.96	0.0500	mg/L	2.00			98.0	80-120			
Calibration Check (EE61705-CCV1)				Prepared	&	Analyzed:	05/17/06				
Bromide	2.05		mg/L	2.00			102	80-120			

Duplicate (EE61705-DUP1)	Source: 6	5E16004	-04	Prepared & Analyzed: 05/17/06		
Bromide	66.0	5.00	mg/L	66.1	0.151	20

Environmental Lab of Texas

#### General Chemistry Parameters by EPA / Standard Methods - Quality Control Environmental Lab of Texas %REC RPD Reporting Spike Source Analyte Result Limit Result %REC Limits RPD Limit Notes Units Level Batch EE61705 - General Preparation (WetChem) Matrix Spike (EE61705-MS1) Source: 6E16004-04 Prepared & Analyzed: 05/17/06 Bromide 264 0.0500 200 66.1 99.0 80-120 mg/L Batch EE61718 - Filtration Preparation Blank (EE61718-BLK1) Prepared & Analyzed: 05/17/06 Total Dissolved Solids ND 5.00 mg/L Duplicate (EE61718-DUP1) Source: 6E16010-01 Prepared & Analyzed: 05/17/06 Total Dissolved Solids 3990 5.00 3900 2.28 5 mg/L Batch EE61902 - Water Extraction Blank (EE61902-BLK1) Prepared & Analyzed: 05/18/06 Chloride ND 0,500 mg/kg LCS (EE61902-BS1) Prepared & Analyzed: 05/18/06 Chloride 10.0 10.3 0.500 mg/kg 103 80-120 Calibration Check (EE61902-CCV1) Prepared & Analyzed: 05/18/06 Chloride 10.6 10.0 106 80-120 mg/L Duplicate (EE61902-DUP1) Source: 6E16007-04 Prepared & Analyzed: 05/18/06 Chloride 4350 50,0 4360 0.230 20 mg/kg Duplicate (EE61902-DUP2) Source: 6E16008-13 Prepared & Analyzed: 05/18/06 Chloride 71000 1000 mg/kg 71000 0,00 20

Environmental Lab of Texas

## General Chemistry Parameters by EPA / Standard Methods - Quality Control Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level		Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EE61902 - Water Extraction											
Matrix Spike (EE61902-MS1)	Source:	6E16007	-04	Prepared	&	Analyzed:	05/18/06				
Chloride	5640	50.0	mg/kg	1000		4360	128	80-120			S-0
Matrix Spike (EE61902-MS2)	Source:	6E16008	-13	Prepared	&	Analyzed:	05/18/06				
Chloride	95000	1000	mg/kg	20000		71000	120	80-120			
Batch EE61905 - Water Extraction											
Blank (EE61905-BLK1)				Prepared	&	Analyzed:	05/18/06				
Bromide	ND	0.0500	mg/kg								
LCS (EE61905-BS1)				Prepared	&	Analyzed:	05/18/06				
Bromide	2.17	0.0500	mg/kg	2.00			108	80-120			
Calibration Check (EE61905-CCV1)				Prepared	&	Analyzed:	05/18/06				
Bromide	2.27		mg/kg	2.00		<u> </u>	114	80-120			
Duplicate (EE61905-DUP1)	Source:	6E16007	7-04	Prepared	&	Analyzed:	05/18/06				
Bromide	0.990	0.100	mg/kg			1.01			2.00	20	
Duplicate (EE61905-DUP2)	Source:	6E16008	8-13	Prepared	&	Analyzed:	05/18/06				
Bromide	ND	100	mg/kg			ND				20	
Matrix Spike (EE61905-MS1)	Source:	6E16007	7-04	Prepared	&	Analyzed:	05/18/06				
Bromide	208	5.00	mg/kg	200		1.01	103	80-120			
Matrix Spike (EE61905-MS2)	Source:	6E16008	3-13	Prepared	&	Analyzed:	05/18/06				
Bromide	4130	100	mg/kg	4000		ND	103	80-120			

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#### Notes and Definitions

S-07 Recovery outside Laboratory historical or method prescribed limits. DET Analyte DETECTED ND Analyte NOT DETECTED at or above the reporting limit NR Not Reported Sample results reported on a dry weight basis dry RPD Relative Percent Difference LCS Laboratory Control Spike MS Matrix Spike Dup Duplicate

Report Approved By:

Raland K June Date: ______ 6/22/2006

Raland K. Tuttle, Lab Manager Celey D. Keene, Lab Director, Org. Tech Director Peggy Allen, QA Officer Jeanne Mc Murrey, Inorg. Tech Director LaTasha Cornish, Chemist Sandra Sanchez, Lab Tech.

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Environmental Lab of Texas

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aure of container/cooler?       Yes       No       I.O         g container/cooler in good condition?       Yes       No       I.O         y Seals intact on shipping container/cooler?       Yes       No       Porpression         if custody present?       Yes       No       Porpression         if custody aresent?       Yes       No       Porpression         if custody aresent?       Yes       No       Porpression         if custody agrees with sample label(s)       Yes       No       Porpression         if custody agrees with sample label(s)       Yes       No       Porpression         if custody agrees with sample label(s)       Yes       No       Porpression         if custody agrees with sample label(s)       Yes       No       Porpression         if custody agrees with sample label(s)       Yes       No       Porpression         if custody agrees with sample label(s)       Yes       No       Porpression         is in proper container/bottle?       Yes       No       Porpression       No         is occumented on Chain of Custody?       Yes       No       Porpression       Porpression       Porpression       Porpression       Porpression       Porpression       Porpression       Porpression       Po		Samn	- le Pecoir		• •		
Lotitalizition       Lotitalizition         Seals intact on shipping container/cooler?       Yes       No         / Seals intact on sample bottles?       Yes       No         / Cusicdy present?       Yes       No         Instructions complete on Chain of Custody?       Yes       No         / Cusicdy signed when relinquished and received?       Yes       No         / Cusicdy signed when relinquished and received?       Yes       No         / Cusicdy signed when relinquished and received?       Yes       No         / Cusicdy signed when relinquished and received?       Yes       No         / Cusicdy signed when relinquished and received?       Yes       No         / Cusicdy signed when relinquished and received?       Yes       No         / Statistic and properties same as on chain of custody?       Yes       No         sin proper container/bottle?       Yes       No         sarooer/y preserved?       Yes       No       No         bottles incel       no floated test?       Yes       No         sions documented on Chain of Custody?       Yes       No       No         via sample amount for indicated test?       Yes       No       Yes         piles have zaro headspace?       Yes       No       Yes </th <th>er?</th> <th></th> <th><u>ie necen</u></th> <th>Vec</th> <th>ISI</th> <th></th> <th>~</th>	er?		<u>ie necen</u>	Vec	ISI		~
Version       Version       No       Potpression         V Seals intaction sample bottles?       Yes       No       Votpression         Instructions complete on Chain of Custody?       Ves       No       Votpression         Instructions complete on Chain of Custody?       Ves       No       Votpression         Instructions complete on Chain of Custody?       Ves       No       Votpression         Instructions complete on Chain of Custody?       Ves       No       Votpression         Instructions complete and intact?       Vess       No       Votpression         Variance container/bottle?       Vess       No       No         s in proper container/bottle?       Vess       No       No         s oncerved?       Vess       No       No         bottles intact?       Vess       No       No         stions documented on Chain of Custody?       Vess       No       No         ets amount for indicated test?       Vess       No       No         issance and within sufficient hold time?       Vess       No       No         isses received within sufficient hold time?       Vess       No       Vess         isses received within sufficient hold time?       Vess       No       VottApplic;	icd conditio	on?		835	No	-1.0 <u>c</u>	-
if custody present?       Yes       No       All thresholds of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the sec	ng containe	er/cooler?		Yes	No	ATTOCASA	<u> </u>
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# Analytical Report

Prepared for:

Dale Littlejohn

R.T. Hicks Consultants Ltd.

901 Rio Grande Blvd, NW Ste., F-142 Albuquerque, NM 87104

Project: Samson State BD No.4 Project Number: None Given Location: BD State #4

Lab Order Number: 6H03002

Report Date: 08/09/06

R.T. Hicks Consultants Ltd. 901 Rio Grande Blvd, NW Ste., F-142 Albuquerque NM, 87104

Project: Samson State BD No.4 Project Number: None Given Project Manager: Dale Littlejohn

#### ANALYTICAL REPORT FOR SAMPLES

Sample	ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-2	(0608021500))	6H03002-01	Water	08-02-2006 15:00	08-03-2006 10:51
MW-1	(0608021555)	6H03002-02	Water	08-02-2006 15:55	08-03-2006 10:51

### Project: Samson State BD No.4 Project Number: None Given Project Manager: Dale Littlejohn

## General Chemistry Parameters by EPA / Standard Methods Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-2 (0608021500)) (6H03002-0	01) Water		-						
Chloride	42.2	5.00	mg/L	10	EH60306	08/03/06	08/03/06	EPA 300.0	
Total Dissolved Solids	444	10.0		1	EH60901	08/04/06	08/08/06	EPA 160.1	
MW-1 (0608021555) (6H03002-0	2) Water								
Chloride	115	5.00	mg/L	10	EH60306	08/03/06	08/03/06	EPA 300.0	
Total Dissolved Solids	648	10.0	"	1	EH60901	08/04/06	08/08/06	EPA 160.1	

Environmental Lab of Texas

R.T. Hicks Consultants Ltd. 901 Rio Grande Blvd, NW Ste., F-142 Albuquerque NM, 87104

## General Chemistry Parameters by EPA / Standard Methods - Quality Control

#### Environmental Lab of Texas

		Reporting		Snike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EH60306 - General Preparation	(WetChem)									
Blank (EH60306-BLK1)				Prepared	& Analyze	ed: 08/03/06	,			
Chloride	ND	0.500	mg/L							
LCS (EH60306-BS1)				Prepared	& Analyze	ed: 08/03/06				
Chloride	9.71	0.500	mg/L	10.0		97.1	80-120			
Calibration Check (EH60306-CCV1)				Prepared	& Analyze	d: 08/03/06				
Chloride	9.89		mg/L	10.0		98.9	80-120			
Duplicate (EH60306-DUP1)	Sour	-ce: 6H02012	-01	Prepared	& Analyze	ed: 08/03/06	I			
Chloride	ND	0.500	mg/L		ND				20	
Matrix Spike (EH60306-MS1)	Sour	-ce: 6H02012	-01	Prepared	& Analyze	ed: 08/03/06	,			
Chloride	10.2	0.500	mg/L	10.0	ND	102	80-120			
Batch EH60901 - Filtration Preparatio	n									
Blank (EH60901-BLK1)				Prepared:	08/04/06	Analyzed:	08/08/06			
Total Dissolved Solids	ND	10.0	mg/L							
Duplicate (EH60901-DUP1)	Sour	-ce: 6H03002	-01	Prepared:	08/04/06	Analyzed:	08/08/06			
Total Dissolved Solids	470	10.0	ma/I		444			5 69	5	P

Environmental Lab of Texas

R.T. Hicks Consultants Ltd. 901 Rio Grande Blvd, NW Ste., F-142 Albuquerque NM, 87104

#### Notes and Definitions

RPD is outside of historic values R5 DET Analyte DETECTED ND Analyte NOT DETECTED at or above the reporting limit NR Not Reported Sample results reported on a dry weight basis dry RPD Relative Percent Difference LCS Laboratory Control Spike MS Matrix Spike Duplicate Dup

Kaland K Jutub 8/9/2006 Report Approved By: Date:

Raland K. Tuttle, Lab Manager Celey D. Keene, Lab Director, Org. Tech Director Peggy Allen, QA Officer Jeanne Mc Murrey, Inorg. Tech Director LaTasha Cornish, Chemist Sandra Sanchez, Lab Tech.

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-563-1800.

Environmental Lab of Texas



Environmental Lab of Texas Variance/ Corrective Action Report- Sample Log-In

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Time:

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10:51

12002

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## Sample Receipt Checklist

			c	lient Initials
Femperature of container/ cooler?	Yes	No		
Shipping container in good condition?	(Tes)	No		
Custody Seals intact on shipping container/ cooler?	Yes	No	Not-Present	
Custody Seals intact on sample bottles/ container?	Yes	No	Not Present	
Chain of Custody present?	Las	No		
Sample instructions complete of Chain of Custody?	Yes	No		
Chain of Custody signed when relinquished/ received?	YES)	No		
Chain of Custody agrees with sample label(s)?	Yes	No	18 written on Cont./ Lid	
Container label(s) legible and intact?	Yes	No	Not-Applicable	
Sample matrix/ properties agree with Chain of Custody?	YES	No		
Containers supplied by ELOT?	Tes	No		
Samples in proper container/ bottle?	Xes	No	See Below	
Samples properly preserved?	(es	No	See Below	
Sample bottles intact?	Yes	No		
Preservations documented on Chain of Custody?	Ves	No		
Containers documented on Chain of Custody?	T Ves	No		
Sufficient sample amount for indicated test(s)?	Ves	No	See Below	
All samples received within sufficient hold time?	Ves	No	See Below	
VOC samples have zero headspace?	Yes	No	Not Applicable	

## Variance Documentation

itact:	Contacted by:	Date/ Time:	
jarding:			
rrective Action Taken:			
· ·			

eck all that Apply:

 $\Box$ 

See attached e-mail/ fax

Client understands and would like to proceed with analysis Cooling process had begun shortly after sampling event



## COVER LETTER

Wednesday, July 26, 2006

Randall Hicks R.T. Hicks Consultants, LTD 901 Rio Grande Blvd. NW Suite F-142 Albuquerque, NM 87104

TEL: (505) 266-5004 FAX (505) 266-0745

RE: Samson BD-04

Dear Randall Hicks:

Order No.: 0607165

Hall Environmental Analysis Laboratory, Inc. received 20 sample(s) on 7/14/2006 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager Nancy McDuffie, Laboratory Manager

AZ license # AZ0682 ORELAP Lab # NM100001



4901 Hawkins NE Suite D Albuquerque, NM 87109 505.345.3975 Fax 505.345.4107 www.hallenvironmental.com

CLIENT: R Project: S	.T. Hicks Consultants, amson BD-04	LTD			La	b Order:	0607165
Lab ID:	0607165-01			Collecti	on Date:	7/12/200	6 10:00:00 AM
Client Sample ID:	UID0028-SIP-EAST				Matrix:	SOIL	·
Analyses		Result	PQL	Qual Units		DF	Date Analyzed
EPA METHOD 9056 Chioride	SA: ANIONS	940	6.0	mg/Kg		20	Analyst: TES 7/25/2006 7:39:36 AM
Lab ID:	0607165-02			Collecti	on Date:	7/12/200	5 10:00:00 AM
Client Sample ID:	UID0028-SIP-North				Matrix:	SOIL	
Analyses		Result	PQL	Qual Units		DF	Date Analyzed
EPA METHOD 9056 Chloride	SA: ANIONS	1700	6.0	mg/Kg		20	Analyst: TES 7/25/2006 7:57:00 AM
Lab ID:	0607165-03			Collecti	on Date:	7/12/200	5 10:00:00 AM
Client Sample ID:	UID0028-SIP-South				Matrix:	SOIL	
Analyses		Result	PQL	Qual Units		DF	Date Analyzed
EPA METHOD 9056 Chloride	SA: ANIONS	2300	15	mg/Kg		50	Analyst: TES 7/25/2006 8:14:25 AM
Lab ID:	0607165-04		. <u></u>	Collecti	on Date:	7/12/2000	5 10:00:00 AM
Client Sample ID:	UID0028-SIP-West				Matrix:	SOIL	
Analyses		Result	PQL	Qual Units		DF	Date Analyzed
EPA METHOD 9056 Chloride	A: ANIONS	2500	15	mg/Kg		50	Analyst: TES 7/25/2006 8:31:50 AM
Lab ID:	0607165-05			Collecti	on Date:	7/12/2000	5 10:40:00 AM
Client Sample ID:	UID0028-NSEIP-Eas	t			Matrix:	SOIL	
Analyses		Result	PQL	Qual Units		DF	Date Analyzed
EPA METHOD 9056 Chloride	A: ANIONS	110	3.0	mg/Kg		10	Analyst: TES 7/24/2006 12:26:05 PM

Hall Environmental Analysis Laboratory, Inc.

Date: 26-Jul-06

 Qualifiers:
 *
 Value exceeds Maximum Contaminant Level

 E
 Value above quantitation range

J Analyte detected below quantitation limits

S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

CLIENT: R Project: S	T. Hicks Consultants, amson BD-04	LTD			I	ab Order:	0607165
Lab ID: Client Sample ID:	0607165-06 UID0028-NSEIP-Nor	th			Collection Date Matrix	: 7/12/2000 : SOIL	5 10:40:00 AM
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 9056 Chloride	A: ANIONS	370	3.0		mg/Kg	10	Analyst: TES 7/24/2006 12:43:29 PM
Lab ID:	0607165-07			(	Collection Date	: 7/12/2000	6 10:40:00 AM
Client Sample ID:	UID0028-NSEIP-Sou	th			Matrix	: SOIL	
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 9056 Chloride	SA: ANIONS	320	3.0		mg/Kg	10	Analyst: TES 7/24/2006 1:00:53 PM
Lab ID:	0607165-08				Collection Date	: 7/12/200	6 10:40:00 AM
Client Sample ID:	UID0028-NSEIP-We	st			Matrix	: SOIL	
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 9056 Chloride	GA: ANIONS	300	3.0		mg/Kg	10	Analyst: TES 7/24/2006 8:55:31 PM
Lab ID:	0607165-09				Collection Date	: 7/12/200	6 10:15:00 AM
Client Sample ID:	UID0028-SSEIP-East	:			Matrix	: SOIL	
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 9056 Chloride	SA: ANIONS	230	3.0		mg/Kg	10	Analyst: TES 7/24/2006 9:12:55 PM
Lab ID:	0607165-10	<u> </u>			Collection Date	: 7/12/200	6 10:15:00 AM
Client Sample ID:	UID0028-SSEIP-Nor	th			Matrix	: SOIL	
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 9056 Chloride	SA: ANIONS	220	3.0		mg/Kg	10	Analyst: TES 7/24/2006 9:30:19 PM

## Hall Environmental Analysis Laboratory, Inc.

Date: 26-Jul-06

H Holding time

J Analyte detected below quantitation limitsS Spike Recovery outside accepted recovery limits

Value above quantitation range

Value exceeds Maximum Contaminant Level

Qualifiers:

*

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B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

CLIENT: I Project: S	R.T. Hicks Consultants, LTD Samson BD-04			La	b Order	: 0607165
Lab ID: Client Sample ID:	0607165-11 UID0028-SSEIP-South			Collection Date: Matrix:	7/12/200 SOIL	06 10:15:00 AM
Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 905 Chloride	6A: ANIONS 120	3.0		mg/Kg	10	Analyst: TES 7/24/2006 9:47:44 PM
Lab ID:	0607165-12			Collection Date:	7/12/200	06 10:15:00 AM
Client Sample ID:	UID0028-SSEIP-West			Matrix:	SOIL	
Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 905 Chloride	6A: ANIONS 190	3.0		mg/Kg	10	Analyst: TES 7/24/2006 10:05:09 PM
Lab ID:	0607165-13			Collection Date:	7/12/200	06 10:55:00 AM
Client Sample ID:	UID0028-EDT-South Center			Matrix:	SOIL	
Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 905 Chloride Bromide	6A: ANIONS 3000 ND	15 3.0		mg/Kg mg/Kg	50 10	Analyst: TES 7/25/2006 3:09:15 PM 7/24/2006 10:22:33 PM
Lab ID:	0607165-14			Collection Date:	7/12/200	06 10:55:00 AM
Client Sample ID:	UID0028-EDT-South East			Matrix:	SOIL	
Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 905 Chloride Bromide	6A: ANIONS 850 ND	3.D 3.0		mg/Kg mg/Kg	10 10	Analyst: TES 7/24/2006 10:39:58 PM 7/24/2006 10:39:58 PM
Lab ID:	0607165-15			Collection Date:	7/12/20(	06 10:55:00 AM
Client Sample ID:	UID0028-EDT-South West			Matrix:	SOIL	
Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 905 Chloride Bromide	<b>5400</b> 5400 ND	15 3.0		mg/Kg mg/Kg	50 10	Analyst: TES 7/25/2006 3:26:40 PM 7/24/2006 10:57:22 PM
Qualifiers: * E J S	Value exceeds Maximum Contaminant Level Value above quantitation range Analyte detected below quantitation limits Spike Recovery outside accented recovery lin	niis		B Analyte detecte H Holding times I ND Not Detected at	d in the ass or preparati the Report	ociated Method Blank on or analysis exceeded ing Limit

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## Hall Environmental Analysis Laboratory, Inc.

Date: 26-Jul-06

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CLIENT: R Project: S	LT. Hicks Consultants amson BD-04	, LTD				La	b Order:	0607165
Lab ID: Client Sample ID:	0607165-16	n Center			Collecti	ion Date: Matrix:	7/12/200 SOU	)6 10:55:00 AM
Analyses		Result	PQL	Qual	Units	Mati IX.	DF	Date Analyzed
EPA METHOD 9056 Chloride Bromide	A: ANIONS	3700 ND	15 3.0		mg/Kg mg/Kg	ан <u></u>	50 10	Analyst: TES 7/25/2006 3:44:05 PM 7/24/2006 11:49:35 PM
Lab ID:	0607165-17		·	(	Collecti	on Date:	7/12/200	06 10:55:00 AM
Client Sample ID:	UID0028-EDT-Nort	h East				Matrix:	SOIL	
Analyses		Result	PQL	Qual	Units		DF	Date Analyzed
EPA METHOD 9056 Chloride Bromide	A: ANIONS	1700 ND	6.0 3.0		mg/Kg mg/Kg		20 10	Analyst: TES 7/25/2006 4:01:30 PM 7/25/2006 12:06:59 AM
Lab ID:	0607165-18			(	Collecti	on Date:	7/12/200	06 10:55:00 AM
Client Sample ID:	UID0028-EDT-Nort	h West				Matrix:	SOIL	
Analyses		Result	PQL	Qual	Units		DF	Date Analyzed
EPA METHOD 9056 Chloride Bromide	6A: ANIONS	2000 ND	6.0 3.0		mg/Kg mg/Kg		20 10	Analyst: TES 7/25/2006 4:18:54 PM 7/25/2006 12:24:23 AM
Lab ID:	0607165-19			(	Collecti	on Date:	7/12/200	6 11:05:00 AM
Client Sample ID;	UID0028-SIPL-Sout	h Large				Matrix:	SOIL	
Analyses		Result	PQL	Qual	Units		DF	Date Analyzed
EPA METHOD 9056 Chloride	SA: ANIONS	1400	6.0		mg/Kg		20	Analyst: TES 7/25/2006 4:36:19 PM
Lab ID:	0607165-20			(	Collecti	on Date:	7/12/200	06 11:00:00 AM
Client Sample ID:	UID0028-EIPL					Matrix:	SOIL	
Analyses		Result	PQL	Qual	Units		DF	Date Analyzed
EPA METHOD 9056 Chloride	SA: ANIONS	7.6	3.0		mg/Kg		10	Analyst: TES 7/25/2006 12:59:11 AM
Qualifiers: * E E j S S	Value exceeds Maximum Co Value above quantitation rar Analyte detected below quar Spike Recovery outside acce	ontaminant Level nge utitation límits pted recovery limits			B An: H Hol ND Not	alyte detected ding times fi Detected at	d in the asso or preparation the Reporti	periated Method Blank on or analysis exceeded ng Limit Page 4

## Hall Environmental Analysis Laboratory, Inc.

Date: 26-Jul-06

# **QA/QC SUMMARY REPORT**

Project:	R. L. Hic Samson	ks Consultants, BD-04	LID						Worl	k Order: 0607165
Analyte		Result	Units	PQL	%Rec	LowLimit	Hig	hLimit	%RPD RF	PDLimit Qual
Method: E300	0									
Sample ID: MB	-10840		MBLK			Batch	ID:	10840	Analysis Date:	7/24/2006 10:24:13 AM
Chloride		ND	mg/Kg	0.30						
Bromide		ND	mg/Kg	0.30						
Sample ID: MB	-10840		MBLK			Batch	ID:	10840	Analysis Date:	7/24/2006 10:41:37 AM
Chloride		ND	mg/Kg	0.30						
Bromide		ND	mg/Kg	0.30						
Sample ID: LC	S-10840		LCS			Batch	ID:	10840	Analysis Date:	7/24/2006 10:59:02 AM
Chloride		14.77	mg/Kg	0.30	98.4	90	1.	10		
Bromide		7.710	mg/Kg	0.30	103	90	1.	10		

#### Qualifiers:

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike Recovery outside accepted recovery limits

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