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P.O. Box 1613 703 E. Clinton Suite 102 Hobbs, New Mexico 88240 505/397-0510 Fax 505/393-4388 www.sesi-nm.com

Safety & Environmental Solutions, Inc.

August 27, 2001

New Mexico Energy, Minerals and Natural Resources Department Attn: Wayne Price-Pet. Engr. Spec.

RE: Sims-McCasland Water Sales Lea County, New Mexico

Dear Mr. Price:

Enclosed please find the report prepared for Sims McCasland Brine Sales by Safety & Environmental Solutions, Inc.

We hope this document meets with your approval and requirements. Should you have any questions or comments please do not hesitate to contact this office immediately.

Thank you,

of allen

Bob Allen, CHMM, REM, CET, CES President BA/mp

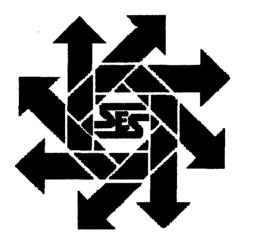
WAITING ON SURVEY MAP!





Sims McCasland Brine Station Site Investigation Lea County, New Mexico

July 18, 2001





Prepared for:

Sims McCasland Brine Sales P.O. Box 99 Eunice, New Mexico 88231

By:

Safety & Environmental Solutions, Inc. 703 E. Clinton, Suite 102 Hobbs, New Mexico 88240 (505) 397-0510

TABLE OF CONTENTS

I.	Background	1
II.	Work Performed Soil Boring and Sampling Groundwater Evaluation and Sampling	1
11.	Results of Soil and Groundwater Testing Soil Sampling Results Groundwater Sampling Results	2
V.	Conclusions and Recommendations	6
V.	References	7
VII.	Report Figures	7
VIII.	Report Appendices	14
	Appendix A. Laboratory Analytical Reports - Soil	14
	Appendix B. Laboratory Analytical Reports - Groundwater	

LIST OF TABLES

Table 1. Borehole Soil Sampling	g Results, Sims McCasland Brin	e Station Site Investigation, Lea
County, New Mexico		
Table 2. Groundwater Sampling	Results, Sims McCasland Brin	ne Station Site Investigation, Lea
County, New Mexico		
Table 3. Groundwater Depths,	Sims McCasland Brine Station	Site Investigation, Lea County,
New Mexico		5

LIST OF FIGURES

Figure 1. Vicinity Map	8
Figure 2. Site Survey	9
Figure 3. Direction of Groundwater Flow	
1-30-01	10
Figure 4. Direction of Groundwater Flow	11
6-15-01	11
Figure 5. Direction of Groundwater Flow	12
7-03-01	12
Figure 6. Direction of Groundwater Flow	13
7-16-01	13

Price, Wayne

From: Sent: To: Cc: Subject:

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ballen [ballen@mail.SESI-NM.COM] Friday, September 07, 2001 10:14 AM waprice@state.nm.us wprice@state.nm.us Sims McCasland

Per our conversation yestereay, I have order a new plat from John West showing the well numbering system used by SESI during sampling and top of water measurements...this map should be available shortly, however, certainly within 2 weeks...bob

Bob Allen Safety & Environmental Solutions, Inc. 703 E. Clinton Suite 103 Hobbs, New Mexico 88240 (505)397-0510

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I. Background

In January 2001 Safety & Environmental Solutions, Inc. (SESI) was engaged by Sims McCasland Water Sales to perform a site investigation at a location where brine water sales had occurred in the past. The investigation was conducted at the request of the New Mexico Oil Conservation Division (NMOCD). The subject area is identified as the Sims McCasland Brine Station and is located in Unit A of Section 32, Township 21S, Range 37 E in Lea County, New Mexico. The area is south and west of the intersection of NM Highway 176 and the American Legion Road or truck bypass west of Eunice, New Mexico. (Figure 1). The property is currently being used as a brine water sales facility.

Previously the subject area contained several redwood brine water and fresh water and the associated piping. These tanks were located at the northern most end of the subject property just south of NM Highway 176. The redwood tanks were removed in the early 1990's and replaced with steel tanks, which were placed toward the southern most end of the property. A lined pit was installed south of the new tanks.

The purpose of the investigation was to delineate the horizontal and vertical extent of any remaining hydrocarbon and/or salt materials at the site of the redwood tanks.

II. Work Performed

Soil Boring and Sampling

Six (6) borehole locations were staked at 60 ft. northwest-southeast intervals and 20 ft. northeast-southwest intervals at the subject site.

Drilling began in February 4, 2001, using SESI personnel from Hobbs. Drilling was completed in March 2001. A Giddings trailer-mounted drill, Model 25-SCT was used to bore test holes with a 4-in. hollow-stem auger. Samples from the test holes generally were collected in thin-walled sampling tubes using SOPs found in Environmental Protection Agency, 1984, Characterization of Hazardous Waste Site - A Methods Manual: Vol. II. Initially, soil samples were collected at 0-2 ft. and 2-5 ft. intervals. Due to the presence of cemented caliche at approximately 20 ft., the boreholes did not penetrate below that depth. At the completion of drilling, the boreholes were backfilled with drill cuttings.

The samples were preserved on ice and delivered along with Chain of Custody to Cardinal Laboratories for testing. Laboratory samples were analyzed for Chlorides (EPA Method 600/4-79-020 325.3). Copies of the analytical results are found in Appendix A.

Groundwater Evaluation and Sampling

Three (3) fresh water wells currently exist on the subject property. SESI personnel measured the top of water in each well and sampled the wells on January 30, 2001. The wells were sampled using SOPs found in <u>Environmental Protection Agency, 1984</u>, Characterization of Hazardous Waste Site - A Methods Manual: Vol. II. In addition to

the wells onsite, the water well north of the subject site (Whitaker Well) was sampled using the sample SOPs.

The samples were preserved on ice and delivered along with Chain of Custody to Cardinal Laboratories for testing. Laboratory samples were analyzed for Total Petroleum Hydrocarbons (EPA Method SW 846 418.1), BTEX (EPA Method SW-846-8260) and Major Cations and Anions.

A complete copy of the water analysis is included in Appendix B. No BTEX was found in the groundwater at the low detection limit of 0.002 mg/L. However, chlorides were elevated above the New Mexico Water Quality Control Commission Ground Water Standard of 250 mg/L. The source of the elevated chloride level is unknown at this time. Historically, brine production in the Eunice area ranged between 10 and 50 acre-feet per square mile (Nicholson and Clebsch, 1961). Much, if not most, of the brine was disposed of in unlined surface pits in the area until the requirements of Order R-3221 were established. As far back as 1951, some water wells in the area had chloride concentrations as high as 1,750 mg/L and more recent measurements show chlorides as high as 1,500 mg/L in some wells within a mile of the current site.

II. Results of Soil and Groundwater Testing

Soil Sampling Results

Soil sampling results for chlorides from the 6 boreholes are tabulated in Table 1.

Laboratory chloride concentrations ranged from 180 mg/Kg to 5920 mg/Kg at the 20 ft. depth in the six boreholes. The average chloride concentration calculated for all samples, was 1,099 mg/Kg. The highest chloride concentrations are in boreholes BH 3,and 4, which are on the northwest end of the investigation grid (Figure 2). This area is actually considered to be adjacent to, but not under, the old redwood tanks, but may have been a pooling area for past spills and/or leaks. The chloride level in BH 5 is also high and not considered to be directly under the redwood tank location. BH 1, BH 2, and BH 6 are located in the area under the old redwood tanks and exhibit very low concentrations of chlorides. BH 3 and BH 4 are in very close proximity to the water well identified as Well #1.

Lithologically, all the samples above 15 ft. were a reddish-brown cohesive clay. This clay was encountered until the 18 to 20 ft. depth.

BORE HOLE #	DEPTH	CHLORIDE LEVEL
- xan 10 An 1 - 11 Ann	5'	179 ppm
1	.10'	1067 ppm
	21'	180 ppm
2	5'	319 ppm
2	10'	223 ppm
2	15'	239 ppm
2	20'	224 ppm
		an an an Araba an Araba an Araba an Araba. An ann an Araba an Araba an Araba an Araba An Araba an Araba an Araba an Araba.
3	10'	1775 ppm
3	20'	2080 ppm
4	10'	8160 ppm
4	20'	5920 ppm
5 1000	10'	592 ppm
5	20'	1810 ppm
		34
6	10'	144 ppm
6	20*	352 ppm

 Table 1. Borehole Soil Sampling Results, Sims McCasland Brine Station Site

 Investigation, Lea County, New Mexico

Groundwater Sampling Results

The groundwater sampling results for all analysis are tabulated in Table 2.

The tops of groundwater measurement results are tabulated in Table 3.

The existing water wells on the subject property were numbered Water Wells 1, 2, and 3. The numbering system starts with the western most well and continues eastward. (Figure 2) SESI personnel measured the top of water of the wells to determine the direction of flow of the groundwater on January 30, 2001, June 15, 2001, July 3, 2001 and July 16, 2001. Each measurement indicates the groundwater flow under the subject property to be from northeast to southwest. (Figures 3, 4, 5, 6) Water Well # 3, on the east side of the American Legion Road, had an inoperative pump in the casing while the top of water measurements were taken on January 30, 2001. SESI feels that the pump or associated plumbing or wires down hole may have impaired the measurement taken on January 30, 2001. This is the reason that additional measurements were taken at later dates. These measurements produced very consistent results, which show the flow of the groundwater under the site to be from northeast to southwest.

Water Well 1 and 2 were sampled on January 30, 2001 and Water Well 3 was sampled on February 1, 2001. The Whitaker Well was sampled on March 15, 2001.

Table 2. Groundwater Sampling Results,	Sims McCasland Brine Station Site
Investigation, Lea Cou	nty, New Mexico

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Well Benzene Toluene (mg/L) (mg/L)	Ethyl Benzene Total Xylenes (mg/L) (mg/L)
1 <0.002 <0.002	<0.002 <0.006
2 <0.002 <0.002	<0.002 <0.006
3 <0.002 <0.002	<0.002 <0.006
Whitaker <0.002 <0.002	<0.002 <0.006

Well	Cl [*] (mg/L)	SO ₄ (mg/L)	CO ₃ (mg/L)	HCO ₃ (mg/L	pH) (s.u.)	TDS (mg/L)	
1	1596	72.6	0	415	9.92	3626	
2	707	428	28	199	7.70	2308	
3	1293	<1	0	28	6.67	3194	
Whitaker	460	24.93	559	142	8.56	2044	

	Conductivity T-Alkalinity (umhos/cm) (mgCaCO ₃ /L)
1 1526 0 3 12.75	6555 965
2 579 218 30 12.65	3697 70
3 309 360 55 12.86	4162 23
Whitaker 394 86 10 309	5103 1049

 Table 3. Groundwater Depths, Sims McCasland Brine Station Site Investigation, Lea County, New Mexico

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WELL #	DEPTH TO	CASING	GROUNDWATER
	WATER1/30/01	ELEVATION	ELEVATION
1	91.28	3467.21	3375.93
2.4	91.26	3467.14	3375.88
3	90.99	3466.77	3375.78

WELL# DEPTH TO	CASING	GROUNDWATER
WATER 6/15/01	ELEVATION	ELEVATION
91.25	3467.21	3375.96
91.25	3467.14	3375.89
3 90.56	3466.77	3376.21

WELL #	DEPTH TO	CASING	GROUNDWATER
이 이 아파 가 가 가 가 있다. 	WATER7/3/01	ELEVATION	ELEVATION
· -		3467.21	3375.91
2	91.28	3467.14	3375.86
3	90.60	3466.77	3376.17

WELL # DEPTH TO	CASING	GROUNDWATER
WATER7/16/01	ELEVATION	ELEVATION
1 91.27	3467.21	3375.94
2 91.26	3467.14	3375.88
90.60	3466.77	3376.17

V. Conclusions and Recommendations

Results of the soil-sampling program show some chloride contamination at the ends of the sampling grid. The levels of contamination at the 20 ft. depth on the northwest end of the grid next to Water Well # 1 may have had some effect upon the groundwater if the

well was not cemented to the surface. During the drilling of the boreholes, cemented caliche was encountered at the 20 - 21 ft. depth, which causes auger refusal at that point. It may be likely that the higher levels of chloride in BH 3 and BH 4 are a result of the "pooling" of the chlorides on top of the less permeable caliche. However, the direction of flow of the groundwater under the site, from northeast to southwest, does not indicate that contamination from the area around Water Well #1 would flow to Water Well # 2 or Water Well #3 to produce chloride levels above the WQCC limit of 250 mg./Kg. Water Well #3 is on the east side of the American Legion Road, over 250-ft. east of where the redwood tanks were positioned.

There is currently and open pit to the northeast of the subject site that has been in existence since the early 1950's. This pit must be considered to be a more likely candidate as a source of contamination in the groundwater, given the direction of water flow, than the areas identified on the subject property. The Whitaker Well, which has a chloride concentration of 460 mg/Kg, is west and south of this pit. It is unlikely that the subject site is the cause of contamination in the Whitaker Well.

Based on evaluation of the soil and groundwater sampling results and the direction of flow of the groundwater under the subject site, SESI believes that no further investigation or remedial action is necessary other than continued monitoring of the quality of the groundwater under the site. The open pit to the northeast of the subject site may well warrant investigation by the proper regulatory agencies as a possible source of groundwater contamination in the area as well as a public health risk.

V. References

Nicholson, A. N., Jr., and Clebsch, A., Jr., 1961. *Geology and Ground-water Conditions in Southern Lea County, New Mexico*. Ground-Water Report 6, New Mexico Bureau of Mines and Mineral Resources, Socorro, New Mexico, 120 p.

VII. Report Figures

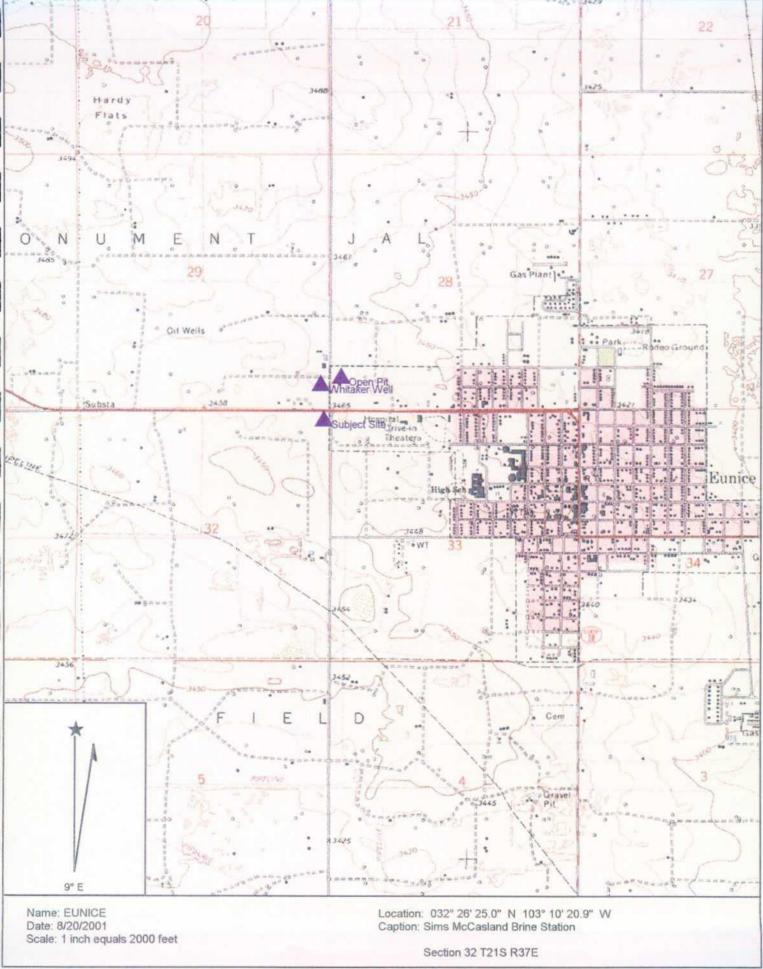
Sims McCasland Brine Station Site Investigation July 18, 2001

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Lea County, New Mexico

Figure 1. Vicinity Map

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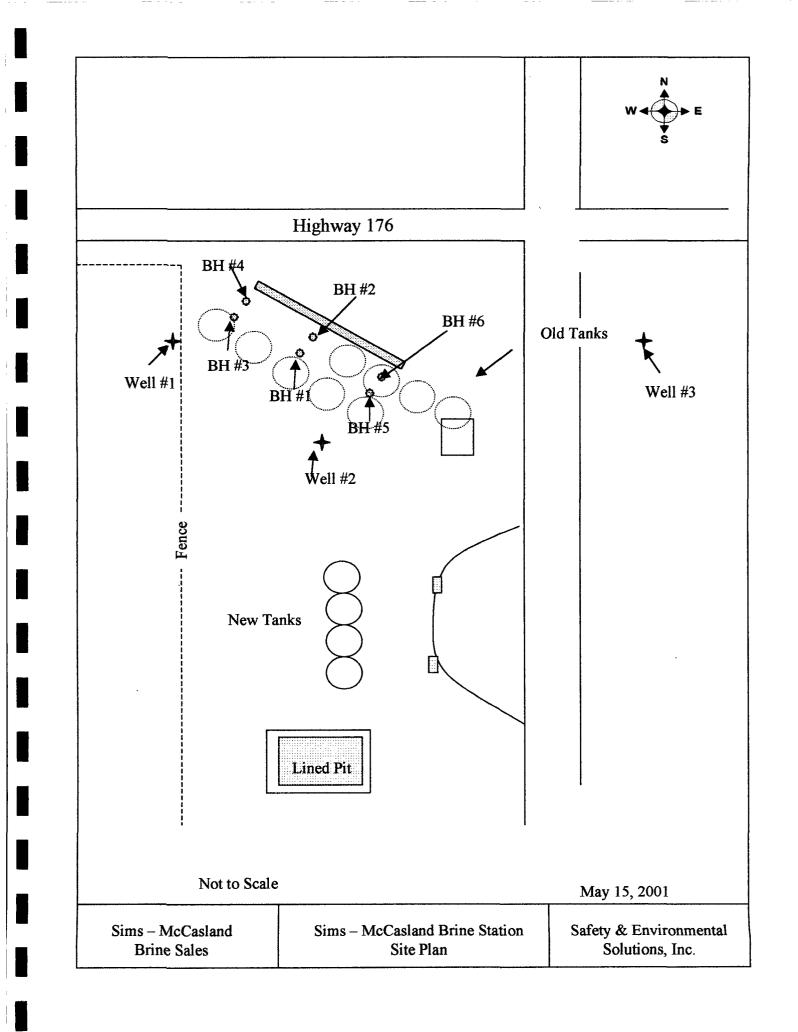


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Figure 2. Site Survey



Sims McCasland Brine Station Site Investigation July 18, 2001

Lea County, New Mexico

Figure 3. Direction of Groundwater Flow 1-30-01

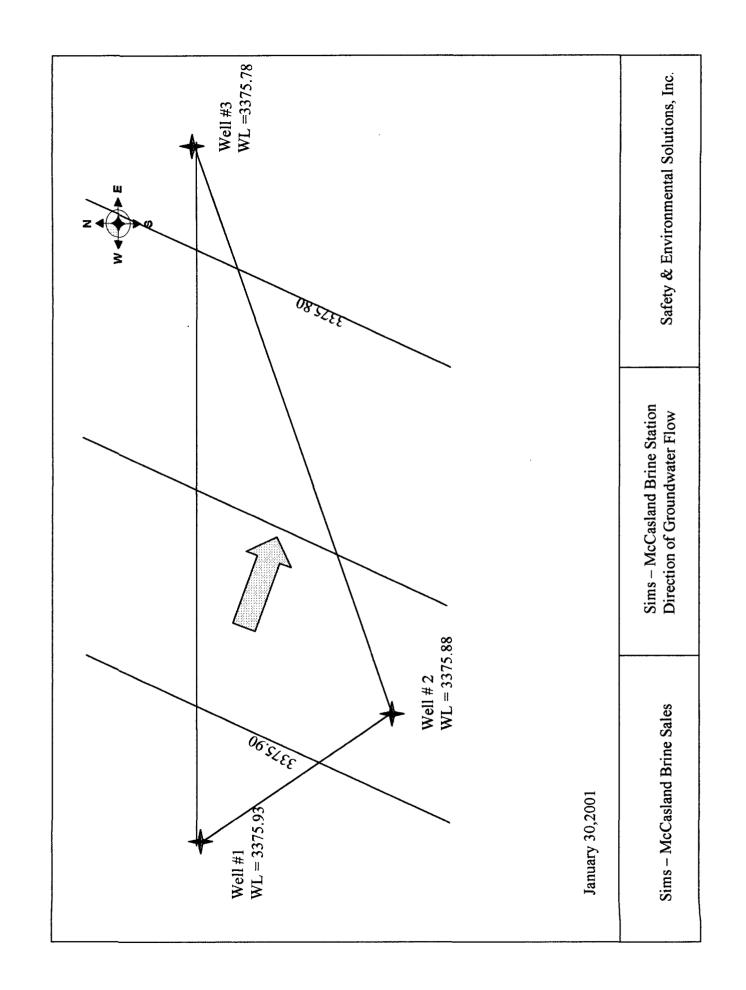


Figure 4. Direction of Groundwater Flow 6-15-01

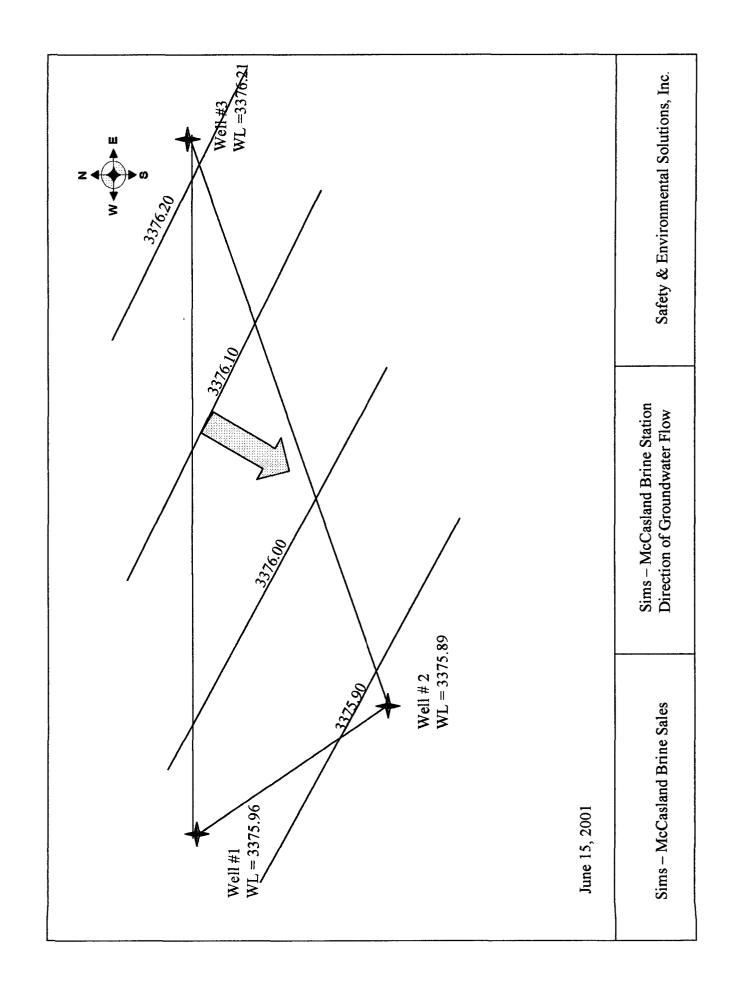


Figure 5. Direction of Groundwater Flow 7-03-01

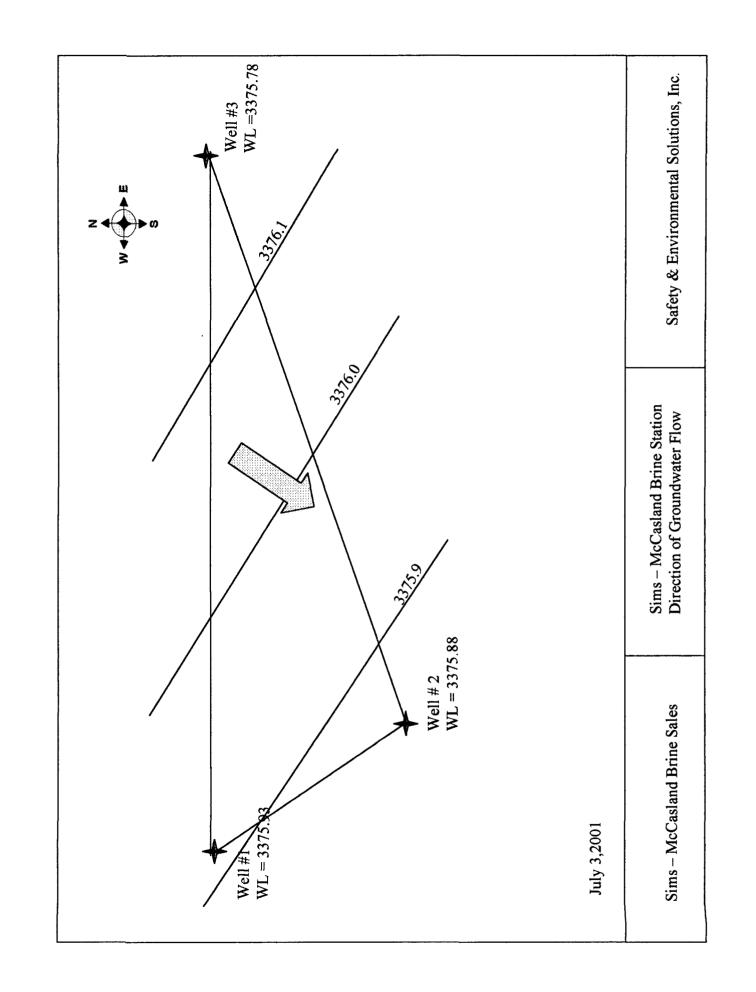
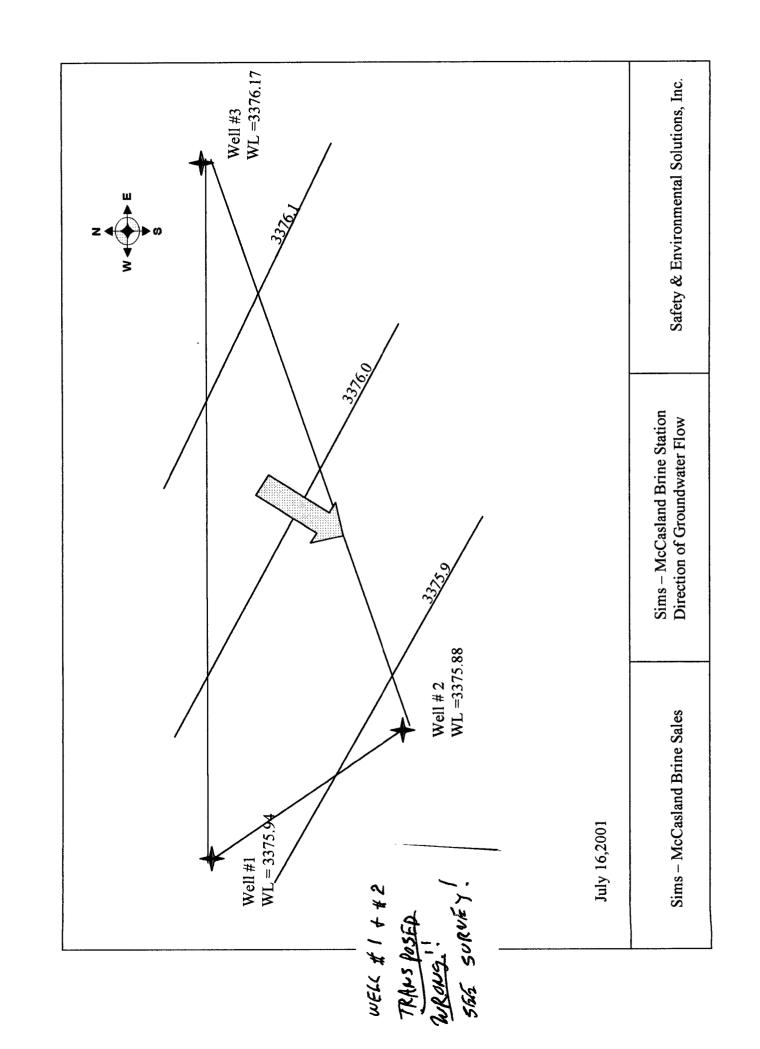


Figure 6. Direction of Groundwater Flow 7-16-01

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VIII. Report Appendices

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Appendix A. Laboratory Analytical Reports - Soil

Appendix B. Laboratory Analytical Reports - Groundwater

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Appendix A Laboratory Analytical Reports Soil



PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS, INC. ATTN: BOB ALLEN 703 E. CLINTON, STE. 103 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 02/13/01 Reporting Date: 02/16/01 Project Number: NOT GIVEN Project Name: KEY-SIMMS-McCASLAND Project Location: EUNICE, NM Analysis Date: 02/14/01 Sampling Date: 02/13/01 Sample Type: SOIL Sample Condition: COOL & INTACT Sample Received By: AH Analyzed By: AH

CL

LAB NUMBER	SAMPLE ID	(mg/Kg)
H5605-1	B.H. #1 5'	179
H5605-2	B.H. #1 10'	1067
Quality Control		1051
True Value QC		1000
% Recovery		105
Relative Percent	Difference	6.8

METHOD: Standard Methods 4500-CI⁻B NOTE: Analyses performed on 1:4 w:v aqueous extracts.

yle Al. Chemist

16/2001 OZ,

PLE 45605. Xissing and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

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ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS, INC. ATTN: BOB ALLEN 703 E. CLINTON, STE. 103 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 03/07/01 Reporting Date: 03/09/01 Project Number: NOT GIVEN Project Name: KEY SIMMS-McCASLAND Project Location: EUNICE Analysis Date: 03/08/01 Sampling Date: 03/06/01 Sample Type: SOIL Sample Condition: COOL & INTACT Sample Received By: BC Analyzed By: GP

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LAB NUMBER	SAMPLE ID	(mg/Kg)
		(
H5681-1	B.H. #1 20'	799
H5681-2	B.H. #2 5'	319
H5681-3	B.H. #2 10'	223
H5681-4	B.H. #2 15'	239
H5681-5	B.H. #2 20'	224
H5681-6	B.H. #3 10'	1775
Quality Control		940
True Value QC		1000
% Recovery		94.0
Relative Percent	Difference	5.5

METHOD: Standard Methods4500-CI'BNOTE: Analyses performed on 1:4 w:v aqueous extracts.

hall Chemist

09/2001 Date

PLEASENCE: XLabity and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

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City: HOBBS State: N	State: NM Zip: 88240	Attn:			
Phone #: (505) 397-0510		Address:			
Fax#: (505) 393-4388		city:		· · · · · · · · · · · · · · · · · · ·	
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ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS, INC. ATTN: BOB ALLEN 703 E. CLINTON, #103 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 03/14/01 Reporting Date: 03/16/01 Project Number: NOT GIVEN Project Name: KEY-SIMS-McCASLAND Project Location: EUNICE, NM Analysis Date: 03/15/01 Sampling Date: 03/12 & 03/13/01 Sample Type: SOIL Sample Condition: COOL & INTACT Sample Received By: BC Analyzed By: AH

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LAB NUMBER	SAMPLE ID	(mg/Kg)
H5701-1	BH #5 10'	592
H5701-2	BH #5 20'	1810
H5701-3	BH #3 30'	2080
Quality Control		1050
True Value QC		1000
% Recovery	···	105
Relative Percent	Difference	10.5

METHOD: Standard Methods 4500-CI B NOTE: Analyses performed on 1:4 w:v aqueous extracts.

uple Ata

02/16/2001 Date

PLEASTOPE: Vibility and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

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service. In no event shell Cardhall affilates or successors arising out	service. In no every shall cardnal be fable for incidential or consequential damages, including without findiade, business of use, or loss of profits incurred by clerr, its subsidiance, antificates or successors adaining out of or related to the above stated reserves to otherwise.	ss, including withou rounder by Cardina	f Initation, but	linese Inten Ewhether e	uch claim is	s of use, or based upon	loss of profits incurra	d by clert, its a stad of	otherwise.		pur .	al costs of cole	and all costs of collections, including attomay's fees.	xney's fees.		
Sampler Relinguish	ed: Date: Time:	<u></u>	celved t	ž			REA	Phone Result: Fax Result: REMARKS:	T Yes	D No Ad	D No Additional Fax #	X#:				
Relinquished By:	$\frac{Date:}{S-74}$	-o/ Re	Regelved By: (L		ab Staff	(M21	k	•)							• .	
Delivered BV+ (Circ Sampler) - UPS - Bus	(Circle One) Bus - Other:			Condition		HECKED (Initials)) BY: s)						· .			
+ Cardinal can	Cardinal cannot accept verbal changes. Please fax written changes to 915-873-7020.	Please fax	wrltten c	hange	s to 91	5-673-7	020.]



PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS, INC. ATTN: BOB ALLEN 703 E. CLINTON, #103 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 03/15/01 Reporting Date: 03/16/01 Project Number: NOT GIVEN Project Name: KEY-SIMS-McCASLAND Project Location: EUNICE, NM Analysis Date: 03/16/01 Sampling Date: 03/15/01 Sample Type: SOIL Sample Condition: COOL & INTACT Sample Received By: AH Analyzed By: AH

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		CI
LAB NUMBER	SAMPLE ID	(mg/Kg)
H5708-1	BH #1 21'	180
H5708-2	BH #4 10'	8160
H5708-3	BH #4 20'	5920
H5708-4	BH #6 10'	144
H5708-5	BH #6 20'	352
Quality Control		1050
True Value QC		1000
% Recovery		105
Relative Percent	Difference	10.5

METHOD: Standard Methods 4500-CI⁻B NOTE: Analyses performed on 1:4 w:v aqueous extracts.

ayle AA

03/16/2001

PLEASTOR A Characteristic and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

k		·		CHAIN-OF-	CHAIN-OF-CUSTODY AND ANALYSIS REQUEST
ARDI	ARDINAL LABORATORIES, INC. 2111 Beechwood, Abilene, TX 79603 (915) 673-7001 Fax (915) 673-7020		101 East Marland, Hobbs, NM 882 (505) 393-2326 Fax (505) 393-2476	88240 2476	Page of
Company Name: SF	SFIST		· · · · · · · · · · · · · · · · · · ·		ANALYSIS REQUEST
Project Manager:			RILLTO PO	PO#:	
Address: 703 E.	CLINTON, #103		Company: SAME		
CIty: HOBBS	State: NM Zip: 88	88240	Attn:		
Phone #: (505) 3	397-0510		Address:		
Fax#: (505) 39	393-4388		City:		
	Project Owner:		State: Zip:		· · · · · · · · · · · · · · · · · · ·
Project Name: ξ_{e}	er Sins Melas	C MA	Phone #:		
Project Location:	FIMILY NIN		Fax #:		
FOR LAB UBE ONLY		MATRIX	PRES. SAMPLING		
LAB I.D.	Sample I.D.	CONTAINERS ROUNDWATER MASTEWATER ML ML	отнек: сор. отнек: Соос	5 <i>3 0120 10</i> 0 	
1-2708-1		D S × 5 A			
2	R.H. H.J. 20'		X		
1)			-X	×	
5	B.H. # Co 20'	X	X	X	
PLEASE NOTE: LIAURY and Dama analyses. At dalma including those i sewics. In no evert shel Cardnal by	e <u>r LEASE NOTE: Ulability</u> and Damagea. Cardnafa lability and clarit's axelusive namacy for any oddim artelny, whether based nabyses. At delme including thoses for negtigence and any other cause whattoewer shall be deemed watived urless made in sevice. In no event shall cardnal be labie for incidental or consequental damages, including without fimitation, business inti	x any claim arising whether base to deemed walved triless made i ing without limitation, business ir	ed in contract or tort, shall be limited to the In writing and received by Cardnal within 3 Marruptions, loss of uses, or loss of profile it	lin contract or tori, shal be includio the amourt paid by the clear for the writing and received by Cardral within 30 days after completion of the appleable unquore, jose of use, or lose of profile incurred by clear, its eutosidaries,	Terms and Conditions: interest will be charged on al apsourts more than 30 days part due at the rate of 24% per annum from the original date of involos, and at costs of colections, including attomaya less.
amiates or successor artsing out or Sampler Relinguisher	amiates or successors adding out of or mated to the performance of sevices herearcer by Cardinal, repirtees of whether such claim is based upon any of the above stated restors or otherwise. Sampler Relinquished:	Py Cardnal, regirders of wheth Received By:	er euch claim le based upon any of the		∐ Noj Additional Fax#:
	Time:	 ,			
Relinquished By:	2-15-01 June: V	Received By: II	Lab Staff	1	· .
Delivered Bv: (Cli Sampler • UPS • Bus	: (Circle One) Bus & Other:	Sample Condition	on CHECKED BY: (Initials) s	-	
+ Cardinal canno	+ Cardinal cannot accept verbal changes. Please fax written changes to 915-673-7020.	e fax written chang	ges to 915-673-7020.		

Appendix B Laboratory Analytical Reports Groundwater



PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR SAFETY AND ENVIRONMENTAL SOLUTIONS, INC. ATTN: BOB ALLEN 703 E. CLINTON, SUITE 103 HOBBS, NM 88240 FAX TO: 505-393-4388

Receiving Date: 01/30/01 Reporting Date: 02/02/01 Project Number: NOT GIVEN Project Name: SIMS-McCASLAND Project Location: SIMS-McCASLAND WATER ST. Sampling Date: 01/30/01 Sample Type: GROUNDWATER Sample Condition: COOL, INTACT Sample Received By: AH Analyzed By: JA

LAB NUMBER	SAMPLE ID	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL BENZENE (ug/L)	TOTAL XYLENES (ug/L)
ANALYSIS DAT	E	02/01/01	02/01/01	02/01/01	02/01/01
H5565-1	WATER WELL #1	<2.00	<2.00	<2.00	<6.00
H5565-2	WATER WELL #2	<2.00	<2.00	<2.00	<6.00
Quality Control		87	99	90	279
True Value QC		100	100	100	300
% Accuracy		87	99	90	93
Relative Percen	t Difference	3.1	0	0	2.2
METHOD EPA	SW/ 846 8020 5030 Ga	e Chromatograph	1		

METHOD: EPA SW 846-8020, 5030, Gas Chromatography

Chemist

-2-01

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ANALYTICAL RESULTS FOR . SAFETY & ENVIRONMENTAL SOLUTIONS, INC. ATTN: BOB ALLEN 703 E. CLINTON, STE. 103 HOBBS, NM 88240 FAX TO: (397) 505-4388

Receiving Date: 01/30/01 Reporting Date: 02/09/01 Project Number: NOT GIVEN Project Name: SIMS-McCASLAND Project Location: SIMS-McCASLAND WATER STATION Sampling Date: 01/30/01 Sample Type: GROUNDWATER Sample Condition: COOL & INTACT Sample Received By: AH Analyzed By: AH

	Na	Ca	Mg	К	Conductivity	T-Alkalinity
LAB NUMBER SAMPLE ID	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mS/cm)	(mgCaCO ₃ /L)

ANALYSIS D	ATE:	02/09/01	02/01/01	02/01/01	02/01/01	02/01/01	02/01/01
H5565-1	WATER WELL #1	1526	0	3	12.75	6555	965
H5565-2	WATER WELL #2	579	218	30	12.65	3697	70
Quality Contr	ol	1.090	51	52	4.94	1489	NR
True Value Q	C	1.000	50	50	5.00	1413	NR
% Accuracy		109	102	104	98.8	105	NR
Relative Perc	ent Difference	0.4	0	1.9	1.6	0.3	NR
METHODS:		273.1	3500-Ca-D	3500-Mg E	8049	120.1	310.1
		CI_	SO₄	CO3	HCO ₃	pН	TDS
		(mg/L)	(mg/L)	(mg/L)	(mg/L)	(s.u.)	(mg/L)
ANALYSIS D	ATE:	02/01/01	02/02/01	02/01/01	02/01/01	02/01/01	02/05/01
H5565-1	WATER WELL #1	1596	72.6	0	415	9.92	3626
H5565-2	WATER WELL #2	707	428	28	199	7.70	2308
Quality Contr	ol	1051	53.19	NR	995	7.04	NR
True Value Q		1000	50.00	NR	1000	7.00	NR
% Accuracy		105	106	NR	99.5	101	NR
	ent Difference	3.9	0.3	NR	0	4.8	NR
METHODS:		SM4500-CI-B	375.4	310.1	310,1	150.1	160.1

Chemist

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N N	INC.		CHAIN-OF-CUSTODY	CHAIN-OF-CUSTODY AND ANALYSIS KEQUEST
7	2111 Beechwood, Abilene, TX 79603 101 East Marland, Hobbs, NM 882 (915) 673-7001 Fax (915) 673-7020 (505) 393-2326 Fax (505) 393-2476	ariand, Hobbs, NM 88240 326 Fax (505) 393-2476		
Company Name:	: 5EST			ANALYSIS REQUEST
Project Manager.	r. Bob Allen	P.O.#:		
Address: 72	D3 F. Clinten	Company:		
city: Hou	bbs State: NM Zip: 88240	Attn:	5	
Phone #:	Fax #	Address:		
Project #:	Project Owner:	city:	01	
Project Name:	Sims-McCasland	State: Zip:	N _U	
Project Location:	" Sims - M = Castand water St.	Phone #:	Ħ	
Sampler Name:	Dec 2 Me Flat	Fax #:		
FOR LAB USE ONLY		PRESERV SAMPLING	P NC	
Lab I.D.	Sample .D. ОИТАІИЕRS ОИТАІИЕRS СОИРWATER IL .STEWATER IL	HEK: \ COOF D\&VZE: HEK:	570:45 VILEV	
1-60/240 H	С		S. S	
R' 'I	Vater Well # 2 3 0	x 11	4 <i>X X Y</i>	
PLEASE NOTE: Liablity and De analyses. Al claims including tho	mgoe. Cardina's lisbility and chort's axistative research for any claim arhing win to for registerios and any other cause withshoover shall be deemed waived artic	in contract or lot. What is immed to the amount paid by the deart for the writing and reconvecting Candinal within 30 days after completion of the a	the client for the presion of the applicable	Terms and Conditions: Marent will be draged on all accounts more than 30 days past due at the rate of 24% are arrun bron the original date of heaters
service. In no event shall C affiliatos or successors artei		ee, or loss of profile incurred by client, of upon any of the shove stated reaso		and all costs of collections, including attorney's fees.
Sampler Kellingui Relinguished By:	Lates Trans Date: Date:			Add'l Fax #:
Delivered By: (Circle One) (Sampler)- UPS - Bus - Other:	Delivered By: (Circle One) Sample Condition Cool Intact Sampler - UPS - Bus - Other:	tion CHECKED BY: (Initials)		,
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f Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476.

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PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR SAFETY AND ENVIRONMENTAL SOLUTIONS, INC. ATTN: BOB ALLEN 703 E. CLINTON, SUITE 103 HOBBS, NM 88240 FAX TO: 505-393-4388

Receiving Date: 02/01/01 Reporting Date: 02/02/01 Project Number: NOT GIVEN Project Name: SIMS-McCASLAND WATER ST. Project Location: WATER STATION IN EUNICE Sampling Date: 02/01/01 Sample Type: GROUNDWATER Sample Condition: COOL, INTACT Sample Received By: BC Analyzed By: JA

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ETINA

LAB NUMBER	SAMPLE ID	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL BENZENE (ug/L)	TOTAL XYLENES (ug/L)
ANALYSIS DAT	E	02/02/01	02/02/01	02/02/01	02/02/01
H5569-1	WATER WELL #3	<2.00	<2.00	<2.00	<6.00
Quality Control		101	106	95	298
True Value QC		100	100	100	300
% Accuracy		101	106	95	99
Relative Percen	t Difference	7.5	4.2	5.9	7.1

METHOD: EPA SW 846-8020, 5030, Gas Chromatography

02-02-01 Date

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ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS, INC. ATTN: BOB ALLEN 703 E. CLINTON, STE. 103 HOBBS, NM 88240 FAX TO: (397) 505-4388

Receiving Date: 02/01/01 Reporting Date: 02/09/01 Project Number: NOT GIVEN Project Name: SIMS-McCASLAND Project Location: SIMS-McCASLAND WATER STATION Sampling Date: 02/01/01 Sample Type: GROUNDWATER Sample Condition: COOL & INTACT Sample Received By: BC Analyzed By: AH

	Na	Ca	Mg	К	Conductivity	T-Alkalinity
LAB NUMBER SAMPLE ID	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mS/cm)	(mgCaCO ₃ /L)

ANALYSIS DATE:	02/09/01	02/01/01	02/01/01	02/01/01	02/01/01	02/01/01
H5569-1 WATER WELL #3	309	360	55	12.86	4162	23
Quality Control	1.090	51	52	4.94	1489	NR
True Value QC	1.000	50	50	5.00	1413	NR
% Accuracy	109	102	104	98.8	105	NR
Relative Percent Difference	0.4	0	1.9	1.6	0.3	NR

METHODS:	273.135	500-Ca-D 35	00-Mg E	8049	120.1	310.1
	CI_	SO₄	CO2	HCO	рH	TDS

(mg/L)

(mg/L)

(mg/L)

310.1

(mg/L)

SM4500-CI-B

ANALYSIS [DATE:	02/01/01	02/02/01	02/01/01	02/01/01	02/01/01	02/05/01
H5569-1	WATER WELL #3	1293	<1	0	28	6.67	3194
Quality Cont	rol	1051	53.19	NR	995	7.04	NR
True Value C	QC	1000	50.00	NR	1000	7.00	NR
% Accuracy	·	105	106	NR	99.5	101	NR
Relative Per	cent Difference	3.9	0.3	NR	0	4.8	NR

METHODS:

375.4

310.1

Chemist

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150.1

(s.u.)

(mg/L)

160.1

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ST S	ARDINAL LABORATORIES, INC. 2111 Beechwood, Abilene, TX 79603 101 E (915) 573 7001 552 (915) 573 7030 2505	East	lobbs, NN	88240 2476		Pane of
Company Name:	SESENTING FAX (313) 013-1020	0/92-2320 FaX (300) 393-2320 Fa	-fec (cnc)	5-2410 BILL TO		
Project Manager:	Psh Allen		P.O. #:			
Address:	23 E. Clinton		Company:		5/	
City: Holo	65 State: NM Zlp: S	88240	Attn:		なる	
Phone #: 30	7-05/0 Fax#. 333-4	1388	Addres:		2.1,	
Project #:	Project Owner:	V Enery	City:		N f	
Project Name:	Sims - MC Castanal We	to 5 7.	State:	Zlp:	7	
Project Location:	Water Startant	Euxice	Phone #:			
Sampler Name:	J- thte		Fax #:		>	
FOR LAB USE ONLY		MATRIX	PRESERV	VI SAMPLING	5	
Lab I.D.	Sample I.D. SPRAB OR (C) OMP. CONTRINERS	ROUNDWATER ASTEWATER OIL DIL DIL DIL DIL DIL DIL DIL DIL DIL D	DTHER : CID/BASE: DE / COOL	танта Н Н П Н П Н П Н П Н П Н П Н П Н П Н П	мэ:45) Э-1У	
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servico. In no event shall Card affiliates or successors arbitry	eerkoo. In no event shall Cardhal be lable for holdental of consequential damages, holdeny without limbation, business ha affatese or successoons anising out of or radiated to the performance of services instructes by Cardhal, regardese of wheth	vainees itterruptions, toes of use, or toes of profits incurred by s of whether such claim is besed upon any of the shore stated	ae, or loss of prof ed upon any of the	es hismuptions, loss of use, or loss of profits incurred by disert, its auto-idention, shefter such disin is based upon any of the above stated resons at offermise.		and all costs of collections, including attorney's frees.
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			3610 000			

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ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS, INC. ATTN: BOB ALLEN 703 E. CLINTON, #103 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 03/15/01 Reporting Date: 03/06/01 Project Number: NOT GIVEN Project Name: WHITAKER WELL Project Location: EUNICE, NM Sampling Date: 03/15/01 Sample Type: GROUNDWATER Sample Condition: COOL & INTACT Sample Received By: AH Analyzed By: BC

LAB NO.	SAMPLE ID	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (mg/L)
ANALYSIS DA	ATE	03/15/01	03/15/01	03/15/01	03/15/01
H5709-1	WATER WELL	<0.002	<0.002	<0.002	<0.006
Quality Contro	1	0.097	0.104	0.111	0.328
True Value QO		0.100	0.100	0.100	0.300
% Recovery		96.9	104	111	109
Relative Perce	ent Difference	0.3	7.1	9.8	8.6

METHOD: EPA SW-846 8260

4/ Cashe

3/6/01

Date

PLEASENCIE LIADITY and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.



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ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS, INC. ATTN: BOB ALLEN 703 E. CLINTON #103 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 03/15/01 Reporting Date: 03/21/01 Project Number: NOT GIVEN Project Name: WHITAKER WELL Project Location: EUNICE, NM Sampling Date: 03/15/01 Sample Type: GROUNDWATER Sample Condition: COOL & INTACT Sample Received By: AH Analyzed By: AH

	Na	Са	Mg	К	Conductivity	T-Alkalinity
LAB NUMBER SAMPLE ID	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(<i>u</i> S/cm)	(mgCaCO ₃ /L)

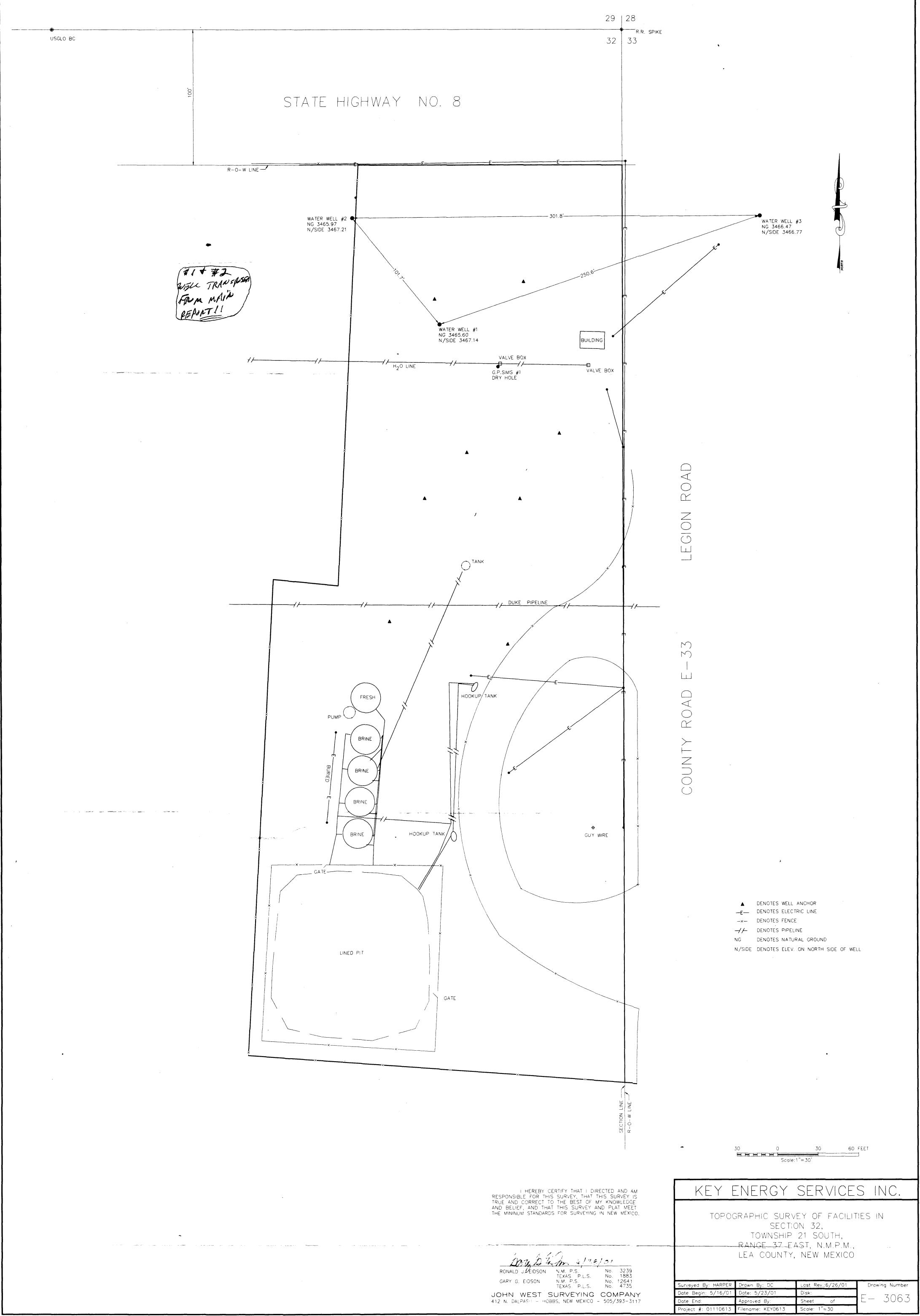
ANALYSIS DATE:	03/16/01	03/20/01	03/20/01	03/20/01	03/19/01	03/20/01
H5709-1 WATER WELL	394	86	10	309	5103	1049
Quality Control	1.170	47	52	5.02	1489	NR
True Value QC	1.000	50	50	5.00	1413	NR
% Accuracy	117	94.3	104	100	105	NR
Relative Percent Difference	4.3	0	0	2.8	0.3	NR
METHODS:	SM	3500-Ca-D	3500-Mg E	8049	120.1	310.1
	CI	SO₄	CO3	HCO₃	pН	TDS
	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(s.u.)	(mg/L)
ANALYSIS DATE:	03/20/01	03/20/01	03/20/01	03/20/01	03/19/01	03/21/01
H5709-1 WATER WELL	460	24.93	559	142	8.56	2044
Quality Control	970	54.86	NR	995	7.04	NR
True Value QC	1000	50.00	NR	1000	7.00	NR
% Accuracy	97.0	110	NR	99.5	100	NR
Relative Percent Difference	7.6	7.4	NR	0	0	NR

le lifi -sta Gayle A. Potter, Chemist

03/22/200/

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affilial of 3700 by Strain out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

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ARDIN 2	ARDINAL LABORATORIES, INC. 2111 Beechwood, Abilene, TX 79603 (915) 673-7001 Fax (915) 673-7020		01 East M 505) 393-2	101 East Marland, Hobbs, NM (505) 393-2326 Fax (505) 393-2	101 East Marland, Hobbs, NM 88240 (505) 393-2326 Fax (505) 393-2476		Page	e of t	
Company Name: SFST	H						ANALYSIS REQUEST		
Project Manager:			BI	BILL TO	PO #:				
Address: 703 E. C	CLINTON, #103	-	Com	Company: SA	SAME				
city: HOBBS	State: NM Zlp: 8	88240	Attn:						
Phone #: (505) 39	397-0510		Address	ess:					
Fax#: (505) 393	393-4388		Clty:						
Project #:	Project Owner:		State:	••	ZIp:	50			
Project Name: ////	With er well		Phone #:	e#:		iar L			
Project Location: E	while NA.		Fax #:			27			
FOR LAB USE ONLY		MATRIX		PRES. S	SAMPLING	1			
LAB I.D.	Comple I.D.	# CONTRINERS GROUNDWATER WASTEWATER SOIL	ACID: OTHER : SLUDGE OIL	OTHER : ICE / COOL	DATE	XZLS KZLS			
1-12709-1 4	VATER WEN	Ņ		Ż	3-15-01	7			
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PLEASE NOTE: Uablity and Damages analyses. Al claims including those for i service. In no event shell Cardnal be for	PLEASE NOTE: Llabity and Damagaa. Cardnafa labity und client's axolusiva numedy for any claim analog whether based unayses. At claims including those for regignoce and any other cause whatseever shall be deemed watived unless made in accession in or event shall Cardnal be labits for inclorent of consequential channels. Including without fination, briefweet inte	for any claim ariaing what is be deemed walved unles uding without fimitation, bu	her besed in contri made in writing a inese interruction	act or tort, shall be li ind received by Carc bas of use. or bas	In contract or tort, shall be limited to the amourt paid by the clear for the withing and meetived by Cardnal within 30 days after completion of the applicable medions. Days of use, or busis of condits instructed by clear its aussidates.	y the clart for the smpletion of the applicable of its autosidation	Terms and Conditions: Interest will be charged on at accounts more than 30 days part the rate of 24% per shown then the of involce and it cost of cost-show includers interval, feed	tion at accounts more than from the original date of involce]
Emilates or successon analog of of or Sampler Relinquished:	amiliate or accession adalogo of of or related to the performance of services hereurode by Circinal, regarders of whether such claim is based upon any of the 1200 stated resource of or adventee. Sampler Relinguished: Date: Received BV: Received BV: Circinal of the resource of the resou	Received	of whether such cla 3V:	tim is based upon an	y of the above stated reas	ons otherwise. ssult 🗌 Yes 🛄 Noj Additional Fax #	inal Fax #:		
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Relinquished By:	Date: 3 -15-0 1 Teepage 10. 3 11)		sv: (Lab Staff)	am Au				· .	
S S	L	I Sample Condition Cool Intact Cool Ves	ondition tact Yes No	CHECKED BY (Initials)	37:		· .		
+ Cardinal cannot	Cardinal cannot accept verbal changes. Please fax written changes to 915-673-7020.	ise fax written o	changes to	915-673-702	:0.]



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