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REPORTS

DATE:

April 23, 1987





Amoco Production Company

2325 East 30th Farmington, New Mexico 87401 505-325-8841

R. J. Broussard District Manager

April 28, 1987

State of New Mexico Energy and Minerals Department P. O. Box 2088 State Land Office Santa Fe, NM 87501-2088

Attn: Dave Boyer

File: GOM-41-400

Groundwater Contamination - GCU No. 153E

Please find the attached report discussing the results of a groundwater study at GCU 153E performed by Amoco's Groundwater Management Section. The results of samples taken on 3/18/87 show that contamination is restricted to the area surrounding the separator and dehydrator pit. Subsequent samples taken on 3/29/87 confirm that contamination is not migrating off Amoco's leases. Furthermore, a PVC lined steel tank was installed in the separator pit during April to prevent any further possible contamination. As outlined in this report, additional groundwater samples will be collected in the fall of 1987 to determine if any changes in dissolved hydrocarbon occur. It is our understanding that no other remedial action is required at this time. If you have any questions, please contact B. J. Williams at 325-3450.

Sincerely,

BJW/ct

cc: N. W. Allen, Denver

W9

GMS 87-322

Dissolved Hydrocarbons in Groundwater Near Gas Well GCU 153E Near Farmington, New Mexico

Lloyd E. Dunlap April 23, 1987 On March 18, 1987, the Groundwater Management Section (GMS) of Amoco Corporation supervised the drilling of seven observation wells at gas well GCU 153E. The purpose of the drilling was to determine if groundwater contamination existed in the shallow subsurface near the gas well. After the observation wells were drilled, groundwater samples were collected and analyzed for aromatic dissolved hydrocarbons. The State of New Mexico Oil Conservation Division (OCD) was present and also collected samples. The results from the GMS samples show that aromatic dissolved hydrocarbons exist near the dehydrator and the seperator. However, no dissolved hydrocarbons were detected in any of the other wells. The OCD samples are not yet available. I understand that a holding tank has now been installed to catch liquids from the separator. Other recommendations are to collect additional samples in the fall of 1987 to determine if the concentration of dissolved hydrocarbons is decreasing.

Observation Wells

Seven observation wells were installed at the site (Figure 1). The wells are constructed of 2-inch PVC well screen and PVC solid casing. The wells were installed with a hollow stem auger rig. Each well was constructed as shown in the appendix.

The shallow subsurface consisted of a fine to coarse sand mixed with a small amount of silt, and gravel. Silt and clay were commonly detected below 7 to 10 ft. The well logs are attached in the appendix.

Water Table Surface

The relative elevations of the well tops were measured so that a water table surface map could be constructed and the direction of groundwater flow could be plotted. Depth-to-water was measured on March 19, 1987, and the relative elevation of the water table surface was calculated (Table 1). Figure 2 shows that the direction of groundwater flow is to the southwest. This is the same direction of the slope of the land surface.

Dissolved Hydrocarbons

Groundwater samples were collected after the wells were drilled. Each well was purged about 3 well volumes prior to drilling. The samples collected by the GMS were analyzed at the GMS laboratory in Tulsa by capillary column gas chromatography. The results show that only wells 2 and 3 contained dissolved hydrocarbons (Table 2). The detection limit for the method is about 2 ug/1 for benzene. Confirmation samples were collected on March 29, 1987 by Amoco personnel. The results are shown in Table 3.

Conclusions

The results from the groundwater samples and the direction of groundwater flow show that the groundwater contamination is not migrating off the Amoco lease. It likely that the separator pit is the source of dissolved hydrocarbons because of the similarities of the gas chromatograms from samples from wells 2 and 3. The higher concentration of dissolved hydrocarbons in well 2 also suggests that the seperator pit is the source. Because no dissolved hydrocarbons were detected in wells nos. 5, 6, or 7, it appears that retardation mechanisms in the soil prevents the contamination from moving very far away from the seperator in groundwater.

The GMS concurs with Amoco Production's decision to install a holding tank to catch liquids from the separator. This should prevent any further contamination from entering the soil. Because the dissolved hydrocarbons do not appear to be migrating off of the site, the GMS does not feel that any additional remedial action is needed at this time. The dissolved hydrocarbons in the groundwater will likely decrease over the next several months by natural processes such a biodegradation, volitilization, and dilution. The GMS recommends that additional groundwater samples be collected in the fall of 1987 to determine if any changes have occurred in the concentration of dissolved hydrocarbons. The samples should be sent to the GMS laboratory in Tulsa.

Lloyd E. Dunlap

Certified Ground Water Professional

Lloyd & Dunlag

LED:mph

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CGWP IN THE SCIENTIFIC OF THE

CGWP NO. 156 Expires 03/13/1989

TABLE 1
Fluid Level Measurements
March 19, 1987

Well	Elevation of Top of Casing (relative to mean sea level assumed datum*)	Depth to Water (ft below top of casing)	Adjusted Water Table Elevation*	Product Thickness (ft)
1	104.63	13.44	91.19	0
2	100.43	9.40	91.03	0
3	99.98	9.12	90.86	0
4	100.22	9.10	91.12	0
5	100.82	10.25	90.58	0
6	98.73	9.45	89.28	0
7	99.72	9.43	90.29	0

TABLE 2

Concentration of Dissolved Hydrocarbons in Groundwater,
March 18, 1987

Sample	Benzene	Toluene	Ethyl- benzene milligrams per	Para- & Meta- xylene liter	Ortho- xylene
1A	<0.002	<0.002	<0.002	<0.002	<0.001
1B	<0.002	<0.002	<0.002	<0.002	<0.001
2A	9.3	0.11	1.1	6.9	0.45
2B	10.	0.066	1.4	7.3	0.52
3A	1.2	0.18	0.90	6.6	0.45
3B	1.1	0.18	1.1	7.8	0.58
4A	<0.002	<0.002	<0.002	<0.002	<0.002
5A	<0.002	<0.002	<0.002	<0.002	<0.002
6A	<0.002	<0.002	<0.002	<0.002	<0.002
7A	<0.002	<0.002	<0.002	<0.002	<0.002

Detection limit 0.002 mg/l. Statistically repeatable limit = 0.01 mg/l

Analysis was performed by capillary column gas chromatography using freon solvent to extract the dissolved hydrocarbons at the time of sampling.

TABLE 3

Concentration of Dissolved Hydrocarbons in Groundwater,
March 29, 1987

	Benzene	Toluene milligrams	Ethyl- benzene per liter	Para- & Meta- xylene	Ortho- xylene Sample
1	<0.002	<0.002	<0.002	<0.002	<0.001
2			- broken vial		
3	1.3	0.16	0.11	4.0	0.38
4	<0.002	<0.002	<0.002	<0.002	<0.002
5	<0.002	<0.002	<0.002	<0.002	<0.002
6	<0.002	<0.002	<0.002	<0.002	<0.002
7	<0.002	<0.002	<0.002	<0.002	<0.002

Detection limit 0.002 mg/1. Statistically repeatable limit = 0.01 mg/1

Analysis was performed by capillary column gas chromatography using freon solvent to extract the dissolved hydrocarbons at the time of sampling.

Well Logs

Depth, ft	Lithology
Well 1	
0-2.5 2.5-4.5 4.5-9.5 9.5-14.5 14.5-18	Medium to coarse sand; cobbles and pebbles Same; drill chatter at 4 ft Same; some silt Same No drill cuttings
Screen 8 to 18 ft bl	sd (below land surface datum)
<u>Well 2</u>	
0-4.5 4.5-7.5 7.5-8 8-14	Medium to coarse sand Same, with silt Black soil, medium to coarse sand No drill cuttings
Screen 4 to 14 blsd	
<u>Well 3</u>	
0-5 5-7.5 7.5-10 10-14.5	Fine to medium sand; some silt Silt, some sand Same, with black soil Silt, some sand
Screen 4.5 to 14.5 f	t blsd
<u>Well 4</u>	
0-9.5 9.5-14.5	Fine to coarse sand, some silt No return
Screen 5.0 to 15.0 f	t blsd
Well 5 0-2.5 2.5-7.5 7.5-14.5	Medium to coarse sand, some silt Same, less silt Silt; clay
Screen 7 to 12 ft bl	sd

Well Logs (continued)

Depth, ft Lithology

<u>Well 6</u>

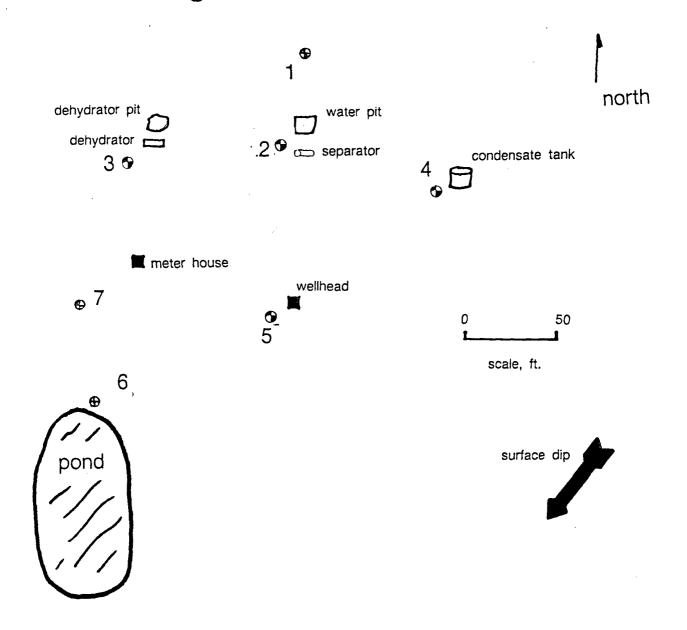
0-6	Medium	to	coarse	sand	and	silt
6-13	Clayey	sil	.t			
13-17	Silty o	lay	r			

Screen 12 to 17 ft blsd

Well 7

0-5	Medium to coarse sand, some silt
5-7.5	Same, with more silt
7.5-10	Sandy silt
10-15	Silty, muddy

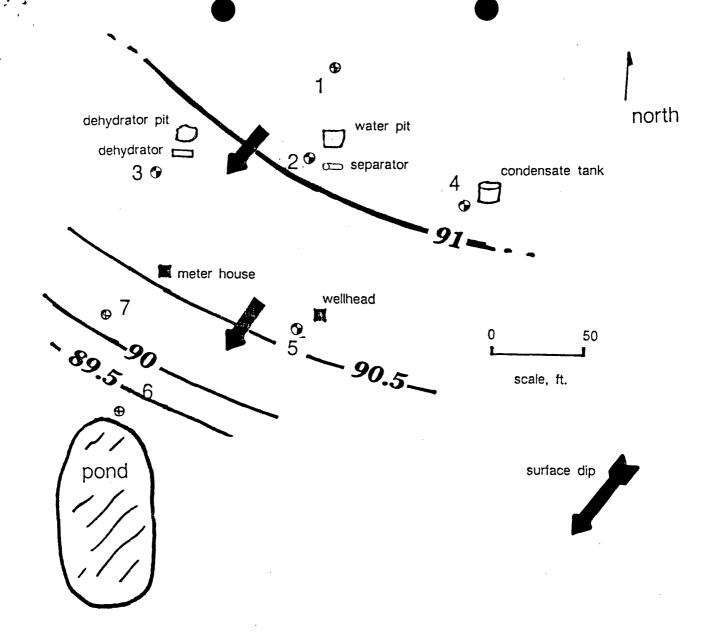
Screen 7 to 17 ft blsd



GCU 153E

Figure 1. Location of observation wells.

sobservation wells



GCU 153E

Relative elevation of water table surface on March 19, 1987.

Figure 2. Location of observation wells.

• observation wells





New Mexico Health and Environment Department 859 win scientific Laboratory Division 700 Camino de Salud NE Albuquerque, NM 87106 — (505) 841-2555

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

		<u> </u>					
DATE RECEIVED 3	120 187 18	AB WC-870	USER CODE 59300	o □ 59600 💢 C	THER: 82	235	
Collection DATE 87		SITE	Sample location Wel	1		of Farming to	<u> </u>
Collection TIME		INFORM- ► ATION					
Collected by - Person/Ad		/OCD	Collection site description	Bull at W	udy's	Indexace	
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	NIVE DONMEN	TAL DUDEAU			1 (10 1	well is Bas	 . M
B.1		TAL BUREAU SERVATION DIV	ITSTON			1	<i>(</i>)
FINAL S	State Land	Office Bldg,	PO Box 208	8	Aga	20to (200)	PR
REPORT S	Santa Fe,	NM 87504-208	8				
>	David Boy	ver					
		<i></i>			Station/ -	= 1 0	
Phon	e: 827 - 58	312			well code	Ink Drain	
SAMPLING CON	NDITIONS				Owner	Amero	
	□ Pump ☑ Tap	Water level		Discharge		Sample type	
pH (00400)	C IAP	Conductivity (Unco	rrected)	Water Temp. (00010)	<u> </u>	Conductivity at 25°C (00	094)
			μmho		°C		μmho
Field comments	Sample tel	Ken from	en al of	tank drain p	ipe de	blow set	
***************************************				r in the state of		in the same of the	***********
}					· ····	*******************************	************
SAMPLE FIELD	TREATMEN	T — Check prope	r boxes				
No. of samples	⊡ NF	Whole sample	☐ F: Filtered in		ml H₂SO₄/l	L added	
submitted		(Non-filtered)	0.45 µmei	mbrane filter		·_	
NA: No acid	d added 🗆 C	Other- <i>specify:</i>	□A: :	5ml conc. HNO3 ad	ded 🗆 A	4: 4ml fuming HN	10 ₃ added
ANALYTICAL R	ESULTS from	SAMPLES			······································		
NA			Units Date analyzed	From NE.	arame2 Al	: Date	
Conductivity (C	orrected)	162	umho 3/14	T From <u>A//</u> , '	in sempic	Analyza	ed
25°C (00095)			umho	-	4 - 0	mg/1 4/8	_
Total non-filteral				Galcium			
residue (suspen (00530)	nded)		mg/l	Potassium _	2,34	mg/1 <i>u/iy</i>	
Other:		Alt = 6.66	3/5	Magnesium _	0.4	mg/1 <u>4/8</u>	
☐ Other:		<u>/ </u>	<u> </u>	- Sodium	13.8	mg/7 4/14	
☐ Other:				Bicarbonate		mg/1 3/25	
A-H ₂ SO ₄		 -					5
□ Nitrate-N + Nit	rate-N			Chloride _		/ -	127
total (00630)		·	mg/l	_ Sulfate			
Ammonia-N tota	, ,		mg/l	- Total Solid	s <u>64</u>	mg/1	
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☐ Chemical oxyge							
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Total organic ca	irbon		mg/l	- Cation/Ar	nion Bai	lance	
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Laboratory remarks				.L			 .
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FOR OCD USE	Date 0	Owner Notifie	.d	Phone or Lette	er?	Initals	



NTIFIC LABORATORY DIV 700 Camino de Salud NE Albuquerque, NM 87106 841-2570



STATE OF NEW MEXICO

REPORT TO: David Boyer	S.L.D. No. OR- 87-0350 AB
N.M. Oil Conservation Division	DATE REC. 3-20-87
P. O. Box 2088	2.11
Santa Fe, N.M. 87504-2088	PRIORITY
PHONE(S): 827-5812 USER	CODE: 8 2 2 3 5
B 11 B	CODE: 12 6 0
SAMPLE COLLECTION CODE: (YYMMDDHHMMIII) \(\xi_17_10_13_1/18\)	1—————————————————————————————————————
SAMPLE TYPE: WATER , SOIL , FOOD , OTHER:	
COUNTY: San Juan ; CITY: Farming ton	i
LOCATION CODE: (Township-Range-Section-Tracts) 2 9 N + 12 W	
ANALYSES REQUESTED: Please check the appropriate box(es) below to indica	e the type of analytical screens
required. Whenever possible list specific compounds suspected or required.	
	TRACTABLE SCREENS
	Aliphatic Hydrocarbons
	Organochlorine Pesticides
	Base/Neutral Extractables Herbicides, Chlorophenoxy acid
	Herbicides, Triasines
	Organochlorine Pesticides
	Organophosphate Pesticides
(767)	Polychlorinated Biphenyls (PCB's)
	Polynuciear Aromatic Hydrocarbons
(762)	SDWA Pesticides & Herbicides
Remarks:	
FIELD DATA:	
	mg/l
FIELD DATA:	
FIELD DATA: pH=; Conductivity= 4900 umhe/cm at 13.5 °C; Chlorine Residual=	
FIELD DATA: pH=; Conductivity= 4900 umho/cm at 13.5 °C; Chlorine Residual= Dissolved Oxygen=mg/l; Alkalinity=mg/l; Flow Rate	
FIELD DATA: pH=; Conductivity= 4900 umho/cm at 13.5°C; Chlorine Residual= Dissolved Oxygen=mg/l; Alkalinity=mg/l; Flow Rate Depth to waterft.; Depth of wellft.; Perforation Interval Sampling Location, Methods and Remarks (i.e. odors, etc.)	
FIELD DATA: pH=; Conductivity= 4900 umho/cm at 13.5°C; Chlorine Residual= Dissolved Oxygen=mg/l; Alkalinity=mg/l; Flow Rate Depth to waterft.; Depth of wellft.; Perforation Interval Sampling Location, Methods and Remarks (i.e. odors, etc.) MW#1 at well 5/fe GCU#153 E east A	ft.; Casing:
PIELD DATA: pH=; Conductivity= 4900 umho/cm at 13.5°C; Chlorine Residual= Dissolved Oxygen=mg/l; Alkalinity=mg/l; Flow Rate Depth to waterft.; Depth of weilft.; Perforation Interval Sampling Location, Methods and Remarks (i.e. odors, etc.) MW# 1 at well 5/fe GCU # 153 E east A Sampled after monitor well installation, phrsed be I certify that the results in this block accurately reflect the results of my field	Facming from Cons Samples analyses, observations and
PIELD DATA: pH=; Conductivity= 4900 umho/cm at 13.5°C; Chlorine Residual= Dissolved Oxygen=mg/l; Alkalinity=mg/l; Flow Rate Depth to waterft.; Depth of weilft.; Perforation Interval Sampling Location, Methods and Remarks (i.e. odors, etc.) MW#1 at well site GCU#153 E east A Sampled after manifor well installation, phrsed he I certify that the results in this block accurately reflect the results of my field activities (signature collector): William Warn Method	Tacming from Samples analyses, observations and of Shipment to the Lab: hand
FIELD DATA: pH=; Conductivity= 4900 umho/cm at 13.5 °C; Chlorine Residual= Dissolved Oxygen=mg/l; Alkalinity=mg/l; Flow Rate Depth to waterft.; Depth of wellft.; Perforation Interval Sampling Location, Methods and Remarks (i.e. odors, etc.) Mill 1 at well 5/fe GCU #/53 E east A Sampled after monitor well installation phrsed be I certify that the results in this block accurately reflect the results of my field activities (signature collector): 2/1/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2	Tacming from Samples analyses, observations and of Shipment to the Lab: hand
PIELD DATA: pH=; Conductivity= \(\frac{4900}{900} \) umho/cm at \(\frac{13}{3}, \frac{5}{3} \) C; Chlorine Residual= Dissolved Oxygen=mg/l; Alkalinity=mg/l; Flow Rate Depth to waterft.; Depth of wellft.; Perforation Interval Sampling Location, Methods and Remarks (i.e. odors, etc.) Millat hell 5/fe GCU # /53 E eastf Sampled after monitor hell installationphrsacl he I certify that the results in this block accurately reflect the results of my field activities.(signature collector): 2/1/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2	Tacming from Samples analyses, observations and of Shipment to the Lab: hand
PIELD DATA: pH=; Conductivity= \(\frac{4900}{900} \) umho/cm at \(\frac{13}{3} \) C; Chlorine Residual= Dissolved Oxygen=mg/l; Alkalinity=mg/l; Flow Rate Depth to waterft.; Depth of wellft.; Perforation Interval Sampling Location, Methods and Remarks (i.e. odors, etc.) Mill 1 at well 5/fe GCU #/53 E east of the second of the control of the contr	Tacming from Samples analyses, observations and of Shipment to the Lab: hand
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PIELD DATA: pH=; Conductivity= \(\frac{4900}{900} \) umho/cm at \(\frac{13}{3} \) C; Chlorine Residual= Dissolved Oxygen=mg/l; Alkalinity=mg/l; Flow Rate Depth to waterft.; Depth of wellft.; Perforation Interval Sampling Location, Methods and Remarks (i.e. odors, etc.) Mill 1 at well 5/fe GCU #/53 E east of the security that the results in this block accurately reflect the results of my field activities (signature collector): 2/1/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2	ft.; Casing: Farming from Conc. Sampler analyses, observations and of Shipment to the Lab: hand
FIELD DATA: pH=; Conductivity= \(\frac{1900}{900} \) umho/cm at \(\frac{13.5}{3.5} \) C; Chlorine Residual= Dissolved Oxygen=mg/l; Alkalinity=mg/l; Flow Rate Depth to waterft.; Depth of weilft.; Perforation Interval Sampling Location, Methods and Remarks (i.e. odors, etc.) Mill 1 at hell site GCU # 153 E east of the second of the second of the results in this block accurately reflect the results of my field activities. (signature collector): The second of the secon	- ft.; Casing: Farming from Cana Sampler analyses, observations and of Shipment to the Lab: hand residual.
PIELD DATA: pH=; Conductivity= \(\frac{4900}{900} \) umho/cm at \(\frac{13}{3}, \frac{5}{3} \) C; Chlorine Residual= Dissolved Oxygen=mg/l; Alkalinity=mg/l; Flow Rate Depth to waterft.; Depth of weilft.; Perforation Interval Sampling Location, Methods and Remarks (i.e. odors, etc.) MU# 1	- ft.; Casing: Farming from Conc. Samples analyses, observations and of Shipment to the Lab: hand residual.
PIELD DATA: pH=; Conductivity= \(\frac{4900}{900} \) umho/cm at \(\frac{13.5}{3.5} \) C; Chlorine Residual= Dissolved Oxygen=mg/l; Alkalinity=mg/l; Flow Rate Depth to waterft.; Depth of wellft.; Perforation Interval Sampling Location, Methods and Remarks (i.e. odors, etc.) MN	residual.
FIELD DATA: pH=; Conductivity= \(\frac{4900}{900} \) umbo/cm at \(\frac{13}{3}, \frac{5}{3} \) C; Chlorine Residual= Dissolved Oxygen=mg/l; Alkalinity=mg/l; Flow Rate Depth to waterft.; Depth of wellft.; Perforation Interval Sampling Location, Methods and Remarks (i.e. odors, etc.) MV	residual.

This sample was tested using the analytical screen	ing method(s)	checked below:			
PURGEABLE SCREENS (753) Aliphatic Purgeables (1-3 Carbons) (754) Aromatic & Halogenated Purgeables (765) Mass Spectrometer Purgeables (766) Trihalomethanes Other Specific Compounds or Classes		EXTRACTABLE SCREENS	-		
ANA	ALYTICA	L RESULTS			
COMPOUND(S) DETECTED	Conc. [PPB]	COMPOUND(S) DETECTED	CONC.		
halogenated burgeables	1//		11.13		
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·					
arematic · DETECTION LIMIT · *	100h	Nalogonalin + DETECTION LIMIT + +	0,5pm		
ABBREVIATIONS USED:	11	· d	111 -		
N D = NONE DETECTED AT OR ABOVE					
T R = DETECTED AT A LEVEL BELOW [RESULTS IN BRACKETS] ARE UNCONF					
(RESOURS IN BRACKETS ARES CHOOMES	HUMED AND/	OR WITH APPROXIMATE QUANTITATION			
LABORATORY REMARKS: DAT in possi	He tha	t there is a trace amoun	tol		
P- Xulene and m- Xulene but	this is	+ most certainer lab con	Jamin-		
ation sue to the sample	that w	as run before this. How	reves.		
a significant amount of	and other	n Tombouldwas detected he	100		
Daniel a access to the	A L	1:1:14-+	- t		
At lite I carly so it could be	e hield	intraination or a light weigh	<u>nınavon.</u> +		
M emeasing, our certificat	E OF ANALY	MCAL PERSONNEL hydrocarbon.			
Seal(s) Intact: Yes No . Seal(s) broken by		uney date: 4-22	81		
I certify that I followed standard laboratory procedure that the statements on this page accurately reflect the			d and		
that the statements on this page accurately reflect the analytical results for this sample. Date(s) of analysis: 4-22-87. Analyst's signature: Analyst's signature:					
I certify that I have reviewed and concur with the	analytical resul	ts for this sample and with the statements in this	block.		
Reviewers signature: Kmeyerhein	MAY 2				
<i></i>		· · · · · · · · · · · · · · · · · · ·	/		



New Mexico Health and E. Conment Department SCIENTIFIC LABORATORY DIVISION 700 Camino de Salud NE Albuquerque, NM 87106 — (505) 841-2555

859 wnr

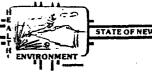
GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE	10010014	AB. 15 0/2 11	ISER _		000	125		
DATE RECEIVED 3	150 181 M		ODE 59300		OTHER: 822			
Collection TIME	4	INFORM- > -	iample location We		53 E e	24st of Farmington		
12-45 Collected by — Person/	Agency		Collection site description	Back of W	indu's 3	Tunkyard		
	Boyer	/OCD [-			7			
SEND FINAL REPORT TO	State Land	SERVATION DIVI Office Bldg, NM 87504-2088	[SION PO Box 2088	3				
	<u></u>							
Phoi	ne: 827-58	12				MW#1		
SAMPLING CO	NDITIONS				Owner Am	200		
☑ Bailed ☐ Dipped ☐ Dippe	☐ Pump ☐ Tap	Water level		Discharge		Sample type		
pH (00400)		Conductivity (Uncorred) 4900	ected) µmho	Water Temp. (00010)	13,5 °C	Conductivity at 25°C (00094) µmho		
Field comments	sampled.	after monitor	- well ins	tellstion, phose	d before	-c sampled		
SAMPLE FIELD	TREATMENT	T — Check proper	boxes					
No. of samples	1 NF	Mhala aceste	□ E. Filtered in	field with A: 2	2 ml H₂SO₄/L	added .		
☑ NA: No ac	id added 🗆 C				ided □A	: 4ml fuming HNO ₃ added		
ANALYTICAL F	RESULTS from	SAMPLES						
/ NA			nits Date analyze	سولا ت	V1 C1-	, Doda		
Conductivity (0 25°C (00095)	Corrected)	6345 ип	nho 3/24	From <u>NF</u> ,	NA Sample:	: Date Analyzed		
☐ Total non-filter residue (suspe (00530) ☐ Other:			ng/l	✓ Calcium ✓ Potassium ✓ Magnesium	4.68	mg/1 4/10 mg/1 4/10		
☐ Other:		/// 1/23	<u> </u>	1 - / -				
☐ Other:				Sodium Bicarbonate		mg/1 4// mg/1 3/25		
A-H₂SO4				Chloride	108	mg/1 3/25		
☐ Nitrate-N+, N total (00630)	itrate-N	m	ng/l	Sulfate	3572	mg/1 3/27		
☐ Ammonia-N to	. ,	m	ng/l	- I Total Solid	is <u>5860</u>	0 mg/1 . 3/3/		
☐ Total Kjeldahl-I	N	_	-a/I					
☐ Chemical oxyg demand (0034			ng/l					
☐ Total organic c	arbon		J			man : 11.		
()		m	ng/l	- Cation/A	nion Bal	ance BoloParticulate		
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Laboratory remark	ks , 2 , 2 /			./	 			
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FOR OCD US	E Date 0	wner Notified		Phone or Lett	er?	Initals		



SCHONTIFIC LABORATORY DIVERS

700 Camino de Salud NE Albuquerque, NM 87106 841-2570



S.L.D. No. OR-87-0352 AB David Boyer REPORT TO: N.M. Oil Conservation Division 3-20-87 DATE REC. P. O. Box 2088 Santa Fe, N.M. 87504-2088 **PRIORITY** USER CODE: | 8 | 2 | 2 | 3 | 5 | 327-5812 PHONE(S): David Boyer _ CODE: |2 |6 |0 | SUBMITTER: SAMPLE COLLECTION CODE: (YYMMDDHHMMIII) [8 | 7 | 0 | 3 | 1 | 8 | 1 | 4 | 3 | 0 | SAMPLE TYPE: WATER [], SOIL [], FOOD [], OTHER: CODE: | COUNTY: San Juan : CITY: Farmin ton CODE: | LOCATION CODE: (Township-Range-Section-Tracts) 2 9 N + 12 W + 2 8 + 1 2 (10N06E24342) ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required. PURGEABLE SCREENS EXTRACTABLE SCREENS (753) Aliphatic Purgeables (1-3 Carbons) (751) Aliphatic Hydrocarbons (754) Aromatic & Halogenated Purgeables (760) Organochlorine Pesticides (765) Mass Spectrometer Purgeables (755) Base/Neutral Extractables [(758) Herbicides, Chlorophenoxy acid (766) Trihalomethanes Other Specific Compounds or Classes (759) Herbicides, Triasines (760) Organochlorine Pesticides [(761) Organophosphate Pesticides (767) Polychlorinated Biphenyls (PCB's) 764) Polynuclear Aromatic Hydrocarbons (762) SDWA Pesticides & Herbicides Remarks: FIELD DATA: pH= ; Conductivity= 7750 umho/cm at 12 °C; Chlorine Residual= mg/l Dissolved Oxygen=___mg/l; Alkalinity=__mg/l; Flow Rate__ Depth to water _____ft.; Depth of well _____ft.; Perforation Interval -Sampling Location, Methods and Remarks (i.e. odors, etc.) 6C4#153E I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): 2/1/1/200 _____ Method of Shipment to the Lab: _____ This form accompanies 2 Septum Vials, ____ Glass Jugs, and/or ____ Samples were preserved as follows: ☐ NP: No Preservation; Sample stored at room temperature. P-Ice Sample stored in an ice bath (Not Frosen). P-Na S O Sample Preserved with Sodium Thiosulfate to remove chlorine residual. CHAIN OF CUSTODY I certify that this sample was transferred from William Olson to Gry Eden at (location) ALM. State Lab on 3/20/87the statements in this block are correct. Evidentiary Seals: Not Sealed 🦳 Seals Intact: Yes 🔽 No 🧻 Sarr C. Wen For OCD Use: Date Owner Notified _____ Phone or Letter? ____ Initials

This sample was tested using the analytical screening m	ethod(s) checked below:
PURGEABLE SCREENS	EXTRACTABLE SCREENS
(753) Aliphatic Purgeables (1-3 Carbons)	(751) Aliphatic Hydrocarbons
(754) Aromatic & Halogenated Purgeables	(760) Organochlorine Pesticides
(765) Mass Spectrometer Purgeables	(755) Base/Neutral Extractables
(766) Trihalomethanes	(758) Herbicides, Chlorophenoxy scid
Other Specific Compounds or Classes	(759) Herbicides, Triasines
	(760) Organochlorine Pesticides
	(761) Organophosphate Pesticides
	(767) Olyanophosphase Tasseddes [767] Polychlorinated Biphenyls (PCB's)
	(764) Polynuclear Aromatic Hydrocarbons
	(762) SDWA Pesticides & Herbicides
-	
ANAI V	TICAL RESULTS
COMPOUND(S) DETECTED COMPOUND (S)	
The transcriber A	^
parogenerea pringenous 1	
fernene 14	700
Johnene 1	\mathcal{D}
ethulbernene 2	30
p-xulene 9°	70
m-xylene 35	
	20
o-sylvice 1	201
	——
aromatic · DETECTION LIMIT · * /Cl	oph Nalogenated DETECTION LIMIT + + 50 mb
ABBREVIATIONS USED:	"
N D = NONE DETECTED AT OR ABOVE THE	STATED DETECTION LIMIT
T R = DETECTED AT A LEVEL BELOW THE	
[RESULTS IN BRACKETS ARE UNCONFIRMED	
,	,
LABORATORY REMARKS: Take amount	of five other Compounds were
detected by the aromatic of	and the trans detidentified
(William of the asoman's	eren was were not surryus.
CERTIFICATE OF	ANALYTICAL PERSONNEL
` .	21 al an
Seal(s) Intact: Yes No . Seal(s) broken by:	Vanoy date: T-24-8/
I certify that I followed standard laboratory procedures on	
that the statements on this page accurately reflect the ana	ytical results for this sample.
Date(s) of analysis: 4-24-87. Analyst's signature	Manney
I certify that I have reviewed and concur with the analyti	results for this sample and with the statements in this block.
Reviewers signature: K. Meuchely	V V
tighthat	MAY 2 6 1987
<i>U</i>	

859 wnr



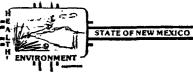
New Mexico Health and Environment Department SCIENTIFIC LABORATORY DIVISION 700 Camino de Salud NE Albuquerque, NM 87106 — (505) 841-2555

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

RECEIVED 3 20 87 NO. WC-867 CODE 5930	o 🗆 59600 💢 🔾	отнея: 82235					
SITE Sample location Ue	11 GCU #153	E east of Farmington					
Collection TIME ATION Collected by — Person/Agency (200)	" Bade of h	lindy's Jankvard					
Oson, Boyer /OCD	Drac at	7					
ENVIRONMENTAL BUREAU SEND NM OIL CONSERVATION DIVISION FINAL State Land Office Bidg, PO Box 208 Santa Fe, NM 87504-2088 Attn: David Boyer	8						
Phone: 827~5812 Station/ Well code MW + 2							
SAMPLING CONDITIONS		Owner Amoco					
□ Bailed □ Pump Water level □ Dipped □ Tap	Discharge	Sample type					
pH (00400) Conductivity (Uncorrected) 775ο μmho	Water Temp. (00010)	12 °C Conductivity at 25°C (00094) μmho					
Field comments	lation, parses	Sefore sampling					
SAMPLE FIELD TREATMENT — Check proper boxes							
No. of samples Submitted Prince (Non-filtered) F: Filtered in (Non-filtered) Ω F: O.45 μme	field with A:	2 mi H₂SO₄/L added					
☑ NA: No acid added ☐ Other-specify: ☐ A:	5ml conc. HNO ₃ a	ided □A: 4ml fuming HNO ₃ added					
ANALYTICAL RESULTS from SAMPLES							
NA Units Date analyze Conductivity (Corrected) 25°C (00095) 9806 umho 3/24	From <u>NF</u> ,	NA Sample: Date Analyzed					
25°C (00095) 25°C (00095) 3/24 Total non-filterable residue (suspended) (00530) Other: Other: Other: A-H ₂ SO ₄ Nitrate-N +, Nitrate-N total (00630) mg/l	Calcium Potassium Magnesium Sodium Bicarbonat Chloride Sulfate	11.7 mg/1 4/1 113 mg/1 4/8 1978 mg/1 4/1 2 4000 mg/1 425 1336 mg/1 3/25 3488 mg/1 3/27					
☐ Ammonia-N total (00610)mg/l	Total Soli	ds <u>82/8</u> mg/1 */8*					
() mg/l ☐ Chemical oxygen demand (00340) mg/l ☐ Total organic carbon () mg/l	Cation/A	nion Balance					
☐ Other:	Analyst	Date Reported Reviewed by					
Laboratory remarks HCO det. untilted sk FOR OCD USE Date Owner Notified	Phone or Lett	eral [1-10] = 1800 ppm					



SCENTIFIC LABORATORY DIV 700 Camino de Salud NE Albuquerque, NM 87106 841-2570



REPORT TO: David Boyer	S.L.D. No. OR-87-0349 AB
N.M. Oil Conservation Division	DATE REC. 3-20-81
P. O. Box 2088	
Santa Fe, N.M. 87504-2088	PRIORITY
PHONE(S): 827-5812	USER CODE: 8 2 2 3 5
SUBMITTER: David Boyer	CODE: [2 6 0
sample collection code: (YYMMDDHHMMIII) 81710	0131181141015111
SAMPLE TYPE: WATER [7], SOIL [7], FOOD [7], OTHER:_	CODE:
COUNTY: Som Juan ; CITY: Farmiston	CODE: _
LOCATION CODE: (Township-Range-Section-Tracts) 2 9 N	+ / 2 + 2 8 + 1 2 (1006E24342)
ANALYSES REQUESTED: Please check the appropriate box(es) be	
required. Whenever possible list specific compounds suspected or re PURGEABLE SCREENS	equired. EXTRACTABLE SCREENS
(753) Aliphatic Purgeables (1-3 Carbons)	(751) Aliphatic Hydrocarbons
(754) Aromatic & Halogenated Purgeables	(760) Organochlorine Pesticides
(765) Mass Spectrometer Purgeables	(755) Base/Neutral Extractables
(766) Trihalomethanes	(758) Herbicides, Chlorophenoxy acid
Other Specific Compounds or Classes	(759) Herbicides, Triasines (760) Organochlorine Pesticides
	(761) Organophosphate Pesticides
	(767) Polychlorinated Biphenyls (PCB's)
	(764) Polynuclear Aromatic Hydrocarbons
	(762) SDWA Pesticides & Herbicides
Remarks:	
	· ·
FIELD DATA:	
pH=; Conductivity= 9500 umho/cm at 13 °C; Chlor	rine Residual= mg/l
Dissolved Oxygen=mg/l; Alkalinity=mg/l; Flow Rai	ı
Depth to waterft.; Depth of wellft.; Perforation	
Sampling Location, Methods and Remarks (i.e. odors, etc.)	
MW#3 at Ames well site 6CU#153 E	E est of Farminton
sampled after monitor well installation	, purged befor sampling
I certify that the results in this block accurately reflect the result	its of my field analyses, observations and
activities.(signature collector): Zallean Wan	Method of Shipment to the Lab:
This form accompanies Septum Vials, Glass Jugs, s	and/or
Samples were preserved as follows:	
NP: No Preservation; Sample stored at room tempers P-Ice Sample stored in an ice bath (Not Frosen).	ssure.
P-Na S O Sample Preserved with Sodium Thiosulfate to re	move chlorine residual.
CHAIN OF CUSTODY	
I certify that this sample was transferred from Villians C	Olson to Gary Eden
I certify that this sample was transferred from Villians C at (location) N.N. State Lab	on 3 / 20 / 87 - 3:30 and that
at (location) N.N. State Lab the statements in this block are correct. Evidentiary Seals: Not S	on 3 / 20 / 87 - 3:30 and that
at (location) N.N. State Lab	on 3 / 20 / 87 - 3:30 and that

LAB. 40.: OR- 349

This sample was tested using the analytical screen	ning method(s)	checked below:	
PURGEABLE SCREENS		EXTRACTABLE SCREENS	
[(753) Aliphatic Purgeables (1-3 Carbons)		(751) Aliphatic Hydrocarbons	
(754) Aromatic & Halogenated Purgeables		(760) Organochlorine Pesticides	-
(765) Mass Spectrometer Purgeables		(755) Base/Neutral Extractables	
(766) Trihalomethanes		(758) Herbicides, Chlorophenoxy acid	
Other Specific Compounds or Classes		(759) Herbicides, Triasines	
<u> </u>		(760) Organochlorine Pesticides (761) Organophosphate Pesticides	
		(767) Ciganophosphate Festicides [767) Polychlorinated Biphenyls (PCB's)	
		(764) Polynuclear Aromatic Hydrocarbons	
		(762) SDWA Pesticides & Herbicides	
ANA	ALYTICA	L RESULTS	
COMPOUND(S) DETECTED	CONC.	COMPOUND(S) DETECTED	CONC.
	[PPB]		[PPB]
Nalogenated Burgesbles	ND		
ho 12. 211 0	2400		
Policia de la constante de la	ND®		
ott. I bensene	ND®		
- May 10-10-10-10-10-10-10-10-10-10-10-10-10-1	860		
0- Xilone			
M-Xylene	3200		
0-xylene	TRE		
	740 /	l-+	
promatic · detection limit · *	ppb	halogonated+ DETECTION LIMIT + +	O.Sph
ABBREVIATIONS USED:		0	/ +
N D = NONE DETECTED AT OR ABOVE			
T R = DETECTED AT A LEVEL BELOW			
[RESULTS IN BRACKETS] ARE UNCONFI	IRMED AND/	OR WITH APPROXIMATE QUANTITATION	
LABOBATORY REMARKS: Tace amou	into of	six other tompounds is	vere
detected by the aromatic	Acres	in that were not ident	thed.
Offen this sample was r	unur	thout dilution everything	rwas
Atstale so it is possib	le that	toluene and etholbemene	are
present in the sample.	he trai	e amount of o-xulene = 100 p	ob.
		1/2/	07
CERTIFICAT	E OF ANALY	TICAL PERSONNEL 4-24	8/
Seal(s) Intact: Yes No . Seal(s) broken by		mey date: 4-22	87
I certify that I followed standard laboratory procedur that the statements on this page accurately reflect th			and
Date(s) of analysis: 4-ZZ-87,4-24-Analyst's sig	n.	Timey	
I certify that I have reviewed and concur with the	//-	1	block
Reviewers signature: Meyer her		2.6.1987	JIVER.
is in the signature.		0.1301	
			_



New Mexico Health and Enconment Department 5 9 wn n SCIENTIFIC LABORATORY DIVISION 700 Camino de Salud NE

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

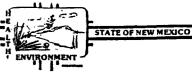
	ouquerque, Mix	n 0/100 — (303) 641-	2000						
PATE RECEIVED 3 2	0 87 K	8.W-869	USER 593	00 🗆 59	9600 XX (OTHER: 82	235		
Collection DATE		SITE	Sample location We		1 #153 E		A Face	ninton	
Collection TIME		INFORM- ► ATION						7/*	
Collected by - Person/Agen	•	/OCD	Collection site descript	on Bade	of Win	dy's J	nakyerel	<u>(</u>	
1 10/200 , 130	yer_	/OCD			-	٦ <i></i>	/		
ENV	/TDONMENT	TAL BUREAU							
SEND NM	OIL CONS	SERVATION DIV	VISION						
FINAL Sta	ate Land	Office Bldg	, PO Box 20	38				***************************************	
	•	NM 87504-208	8						
Attn:	David Boy	ver							
Phone:	827-58	312				Station/ well code	M44.	3	
SAMPLING COND						Owner A	noco		
	Pump	Water level		Discharge		<u> </u>	Sample typ)e/	
	Тар	0) Man - T	(00040)		0	5/66	
pH (00400)		Conductivity (Unco	orrected) DD µmho	vvater len	np. (00010)	/3 °C	Conductivit	ty at 25°C (00094)	μmho
Field comments	al. I	01	niter well it	. F. 11. A	/ 	/ /-	Δ.,	1.	
	mplose	after moi	nited Well to	2161141	in) bu	rgod De	fore sa	mpling	
		······································							
SAMPLE FIELD T	REATMENT	Г — Check prope	er boxes						
No. of samples submitted	□ NF	Whole sample (Non-filtered)		n field with embrane filte	_ 🗆 A: 2	2 ml H₂SO₄/	L added		
						11-1 1-1		Fd. a. UNO	
☑ NA: No acid a	ladea 🗆 C	otner-specity:		DET COU	c. HNO ₃ ac	ided 🗆 🛭	1; 4ml 1	fuming HNO ₃	added
ANALYTICAL RES	SULTS from								
NA Conductivity (Corr			Units Date analyz	Fro	m NE,	NA Sample	:	Date	
25°C (00095)	естеа)	12690 ,	$_{\text{umho}} = \frac{3/24}{}$	_	•			Analyzed	
☐ Total non-filterable	,		,	☐ Ca	lcium	480	mg/1	4/8	
residue (suspende				[] Po	tassium	11.3	mg/1	4/14	
(00530) ☑ Other:		Н	mg/l	I TAMA	gnesium _	146	mg/1	4/8	
☐ Other:					-	3977	mg/l	4/14	
☐ Other:	-	· · · · · · · · · · · · · · · · · · ·			carbonate			3/25	
A-H₂SO₄					nloride		mg/1	3/25	
□ Nitrate-N+, Nitrate	e-N				ulfate	12146		3/27	
total (00630) Ammonia-N total (00610)		mg/l	—ı —/	otal Solic			7.	
☐ Total Kjeldahl-N		· · · · · · · · · · · · · · · · · · ·		7 2 "	JEEL SUITE		<u> </u>		
() Chemical oxygen		· · · · · · · · · · · · · · · · · · ·	mg/l	- _ -					
demand (00340)			mg/l	_ 🗆 –					196
☐ Total organic carbo ()	on		mg/l	_ 17/	ation/A	nion Rai	lance	particula	464
☐ Other:				Analyst	a CIOII/ A		eported	Reviewed by	
☐ Other:				_			15 87	2	
Laboratory remarks	HC 60 -	det abou	11.11	0					
	filtere	ed [HCO3-	J= 1090) ppm.				P	**********

FOR OCD USE -- Date Owner Notified Phone or Letter? Initals



SCENTIFIC LABORATORY DIVISIO

700 Camino de Salud NE Albuquerque, NM 87106 841-2570



REPORT TO: David Boyer	s.l.d. No. or-89-0353AB
N.M. Oil Conservation Division	DATE REC. 3-20-87
P. O. Box 2088	
Santa Fe, N.M. 87504-2088	PRIORITY
PHONE(s): 827-5812	USER CODE: 8 2 2 3 5
SUBMITTER: David Boyer	CODE: 2 6 0
SAMPLE COLLECTION CODE: (YYMMDDHHMMIII) 8 7	
SAMPLE TYPE: WATER , SOIL , FOOD , OTHER:	
COUNTY: Sen Juan ; CITY: Faculty	
LOCATION CODE: (Township-Range-Section-Tracts) 2 5 1	
ANALYSES REQUESTED: Please check the appropriate box(es) required. Whenever possible list specific compounds suspected or	
PURGEABLE SCREENS	EXTRACTABLE SCREENS
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(754) Aromatic & Halogenated Purgeables	(760) Organochlorine Pesticides
(765) Mass Spectrometer Purgeables (766) Trihalomethanes	(755) Base/Neutral Extractables (758) Herbicides, Chlorophenoxy acid
Other Specific Compounds or Classes	(759) Herbicides, Cinocophanoxy seria
	(760) Organochlorine Pesticides
	(761) Organophosphate Pesticides
	(767) Polychlorinated Biphenyls (PCB's)
	(764) Polynuclear Aromatic Hydrocarbons
	(762) SDWA Pesticides & Herbicides
Remarks:	
	<u> </u>
PIETO DATA:	
FIELD DATA: pH=; Conductivity=3900 umho/cm at 12,5°C; Ch	lorine Residual=mg/l
PIELD DATA: pH=; Conductivity=3900 umho/cm at /2,5°C; Ch Dissolved Oxygen=mg/l; Alkalinity=mg/l; Flow R	
pH=; Conductivity=3900 umho/cm at /2,5°C; Ch	
pH=; Conductivity= <u>3900</u> umho/cm at /2,5°C; Ch Dissolved Oxygen=mg/l; Alkalinity=mg/l; Flow R	
pH=; Conductivity=3900 umho/cm at /2,5°C; Chi Dissolved Oxygen=mg/l; Alkalinity=mg/l; Flow R Depth to waterft.; Depth of wellft.; Perforation Sampling Location, Methods and Remarks (i.e. odors, etc.)	
pH=; Conductivity=3900 umho/cm at 12,5°C; Chi Dissolved Oxygen=mg/l; Alkalinity=mg/l; Flow R Depth to waterft.; Depth of wellft.; Perforation Sampling Location, Methods and Remarks (i.e. odors, etc.) MW#4 at well site 6 CU #/53E	Intervalft.; Casing:
pH=; Conductivity=3900 umho/cm at 12,5°C; Chi Dissolved Oxygen=mg/l; Alkalinity=mg/l; Flow R Depth to waterft.; Depth of wellft.; Perforation Sampling Location, Methods and Remarks (i.e. odors, etc.) MW 44 at well site GCU #/53 E Sampled after monitur well installation I certify that the results in this plock accurately reflect the res	est of Farminston n, purgod before sampling ults of my field analyses, observations and
pH=; Conductivity=3900 umho/cm at 12.5°C; Chi Dissolved Oxygen=mg/l; Alkalinity=mg/l; Flow R Depth to waterft.; Depth of wellft.; Perforation Sampling Location, Methods and Remarks (i.e. odors, etc.) MW#4 at well site 6 CU #/53 E Sampled effect mon, fur well installation I certify that the results in this block accurately reflect the resultivities (signature collector):	Intervalft.; Casing:
pH=; Conductivity=3900 umho/cm at 12,5°C; Chi Dissolved Oxygen=mg/l; Alkalinity=mg/l; Flow R Depth to waterft.; Depth of wellft.; Perforation Sampling Location, Methods and Remarks (i.e. odors, etc.) MW 44 at well site GCU #/53 E Sampled after monitur well installation I certify that the results in this plock accurately reflect the res	Intervalft.; Casing:
pH=; Conductivity=3900 umho/cm at 12.5 °C; Chi Dissolved Oxygen=mg/l; Alkalinity=mg/l; Flow R Depth to waterft.; Depth of wellft.; Perforation Sampling Location, Methods and Remarks (i.e. odors, etc.) MW#4 at well Site GCU #/53 E Scaped after monitur well installation I certify that the results in this block accurately reflect the result activities (signature collector): This form accompanies 2 Septum Vials, Glass Jugs, Samples were preserved as follows: NP: No Preservation; Sample stored at room temper	Intervalft.; Casing:
Dissolved Oxygen= mg/l; Alkalinity= mg/l; Flow R Depth to water ft.; Depth of well ft.; Perforation Sampling Location, Methods and Remarks (i.e. odors, etc.) MW 4 at well site GCU #/53 F Sampled after manifur well in stallarion I certify that the results in this block accurately reflect the resultivities (signature collector): This form accompanies Septum Vials, Glass Jugs, Samples were preserved as follows: NP: No Preservation; Sample stored at room temper of the part of the part of the preservation; Sample stored at room temper of the part of	Intervalft.; Casing:
Dissolved Oxygen=mg/l; Alkalinity=mg/l; Flow R Depth to waterft.; Depth of wellft.; Perforation Sampling Location, Methods and Remarks (i.e. odors, etc.) MW 4	Intervalft.; Casing:
pH=; Conductivity=3900 umho/cm at /2,5°C; Chi Dissolved Oxygen=mg/l; Alkalinity=mg/l; Flow R Depth to waterft.; Depth of wellft.; Perforation Sampling Location, Methods and Remarks (i.e. odors, etc.) MW#4	Intervalft.; Casing:
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pH=; Conductivity=3900 umho/cm at 12.5 °C; Chi Dissolved Oxygen=mg/l; Alkalinity=mg/l; Flow R Depth to waterft.; Depth of wellft.; Perforation Sampling Location, Methods and Remarks (i.e. odors, etc.) MW#4	Intervalft.; Casing: Left of Farminston In , Purgod before Sampling ults of my field analyses, observations and Method of Shipment to the Lab: hand and/or arature. remove chlorine residual. Olson to Gary Edge on 3 1 20 1 87 - 3 : 30 and that
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This sample was tested using the analytical screen	ning method(s)	checked below:	•
PURGEABLE SCREENS		EXTRACTABLE SCREENS	•
(753) Aliphatic Purgeables (1-3 Carbons)		(751) Aliphatic Hydrocarbons	
(754) Aromatic & Halogenated Purgeables		(760) Organochlorine Pesticides	*
(765) Mass Spectrometer Purgesbles		(755) Base/Neutral Extractables	
(766) Trihalomethanes		(758) Herbicides, Chlorophenoxy acid	
Other Specific Compounds or Classes		(759) Herbicides, Triazines	
		(760) Organochlorine Pesticides	
		(761) Organophosphate Pesticides	
		(767) Polychlorinated Biphenyls (PCB's)	
		(764) Polynuclear Aromatic Hydrocarbons	
		(762) SDWA Pesticides & Herbicides	
			
AN	ALYTICA	L RESULTS	
COMPOUND(S) DETECTED	CONC.	COMPOUND(S) DETECTED	CONC.
2	[PPB]		[PPB]
The telding los	ND	,	
hatogenated purgeatus	100		
aroundic Ausceables	ND*		
assirtant purigravas	 / ¥ • / 		
, , , , , , , , , , , , , , , , , , , ,			
	1 1		Į.
	1 1	1	
]	
aromatic · DETECTION LIMIT · *	Zm	halogenated+ DETECTION LIMIT + +	/ moh
	77		1//
ABBREVIATIONS USED:			
N D = NONE DETECTED AT OR ABOVE			
T R = DETECTED AT A LEVEL BELOW			
[RESULTS IN BRACKETS] ARE UNCONF	IRMED AND/	ok with APPROXIMATE QUANTITATION	i
			
LABORATORY REMARKS: * Signific	cant as	nount of one other roma	Jound
# + 1 + 1 = 0	1-7	- Constant	
Mar enved larly was	delessa	a by the aromagic scre	en
That was not identified.	Stra	uld be a field contamin	rant
such as a retone it it	could	be a light weight unsate	irated
hudan as kan as donler	S MIE	25	
rugar core (00 VI) of perviago	THE P		
CERTIFICAT	TE OF ANALY	TICAL PERSONNEL	
Seal(s) Intact: Yes No . Seal(s) broken by	M	Fr. 114 4-74	67
Seal(s) Intact: Yes No . Seal(s) broken by I certify that I followed standard laboratory procedu		Turney date: 7 27	d and
that the statements on this page accurately reflect t			a and
4.5	Oat	Z	
Date(s) of analysis: 7-24-87 . Analyst's sig	-//	Furney	
I certify that I have reviewed and concur with the	analytical resul	lts for this sample and with the statements in this	block.
Reviewers signature: Meyerne	ern MAI	<u> 26 1987 — </u>	



New Mexico Health and Econment Department SCIENTIFIC LABORATORY DIVISION 700 Camino de Salud NE

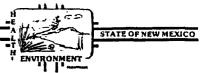
859 WAR GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

i malodani	Albuquerque, NA	M 87106 — (505) 841-	2555		and with	OGEN A	NALTSIS	
PATE RECEIVED 3	120 187 N	å wc-863	USER CODE 59300	D 59600 XX	OTHER: 822	235		
Collection DATE 3 18 87 Collection TIME		SITE INFORM- >	Sample location	lell GCU#	153E	Nerr	Farmington	
Collected by Person/A	gency	/OCD	Collection site description	Back of	Windy's	Junky	iard	
SEND N	NVIRONMEN M OIL CONS State Land		, PO Box 2088	3				
>	David Boy							
	e: 827-58				Station/ well code	MW#	4	
SAMPLING CO	NDITIONS				Owner 9	moco		
☐ Dipped	□ Pump □ Tap	Water level		Discharge		Sample typ	51ab	
pH (00400)		Conductivity (Unco	rrected) µmho	Water Temp. (00010)	2,5 ℃	Conductivi	ty at 25°C (00094) μ	ımho
Field comments	sampled	after moni	tor well in	stallation, pu	15°2 600	ire sc	mpling	
SAMPLE FIELD	TREATMEN	Г — Check prope						
No. of samples submitted	/ ☑ NF	Whole sample (Non-filtered)	.□ F: Filtered in 0.45 μmer	field with mbrane filter A: 2	2 ml H₂SO₄/l	_ added	·	
NA: No aci	d added 🗆 C	Other-specify:	□A:	5ml conc. HNO ₃ ac	dded □A	: 4m1	fuming HNO ₃ ac	ided
ANALYTICAL R	ESULTS from		Units Date analyze	11=			·	
Conductivity (C 25°C (00095)	orrected)		umho 3/24	From <u>NF</u> ,	NA Sample	:	Date <u>Analyzed</u>	
☐ Total non-filtera residue (susper (00530)) ☐ Other: ☐ Other: ☐ Other:	nded) 	oH 7.11	mg/l	Calcium Potassium Magnesium Sodium Bicarbonate	46 97]	mg/1 mg/1 mg/1 mg/1 mg/1	11/	
A-H ₂ SO ₄				Chloride	106	mg/1	2/0-	_
□ Nitrate-N + , Nitrate-N + , Nitrate (00630) □ Ammonia-N tot □ Total Kjeldahl-N () □ Chemical oxygodemand (00340	ai (00610)		mg/lmg/lmg/l	Sulfate	304 ds <u>478</u>			_ _ _
☐ Total organic ca			mg/l	Cation/A	nion Bal	Lance	92%	
☐ Other: ☐ Other:				Analyst	Date Re		Reviewed by	
Laboratory remarks	Untille	100 sample	used i	HCO: let	(
•======================================			************				***************************************	
FOR OCD USE	Date 0	wner Notifie	ed	Phone or Lett	er?	. In	itals	



SCENTIFIC LABORATORY DIVISION 2 700 Camino de Salud NE

Albuquerque, NM 87106 841-2570



David Povon	1-0354 AR
REPORT TO: David Boyer S.L.D. No. OR- 87	
N.M. Oil Conservation Division DATE REC.	3-20-81
P. O. Box 2088	
Santa Fe, N.M. 87504-2088 PRIORITY	
PHONE(S): 827-5812 USER CODE: [8 2 2	3 5
SUBMITTER: David Boyer CODE: 12 16 10	ا د
SAMPLE COLLECTION CODE: (YYMMDDHHMMIII) 817 1013 1/18111312151	
SAMPLE TYPE: WATER [], SOIL [], FOOD [], OTHER: CODE:	i
COUNTY: San Than ; CITY: Farmington CODE: 1	ll
LOCATION CODE: (Township-Range-Section-Tracts) 2 9 N + 1 2 W + 2 8 + 1 2	((10N06E24342)
ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytica	al screens
required. Whenever possible list specific compounds suspected or required.	
PURGEABLE SCREENS EXTRACTABLE SCREENS	<u>.</u>
(753) Aliphatic Purgeables (1-3 Carbons) [751) Aliphatic Hydrocarbons	
✓ (754) Aromatic & Halogenated Purgeables (760) Organochlorine Pesticide ✓ (765) Mass Spectrometer Purgeables (755) Base/Neutral Extractable	1
[(765) Mass Spectrometer Purgeables [(755) Base/Neutral Extractable [(766) Trihalomethanes [(758) Herbicides, Chlorophenox	i i
Other Specific Compounds or Classes (759) Herbicides, Triasines	ky aciu
(760) Organochlorine Pesticide	
(761) Organophosphate Pesticio	
[(767) Polychlorinated Biphenyl	
[(764) Polynuclear Aromatic H	[ydrocarbons
[(762) SDWA Pesticides & He	erbicides
Remarks:	
	j
THE DAME.	
FIELD DATA:	
pH=; Conductivity=6/00 umho/cm at 12.5 °C; Chlorine Residual=mg/l	
pH=; Conductivity=(o/OO umbo/cm at	
pH=; Conductivity=_6/00 umho/cm at _12.5 °C; Chlorine Residual=mg/l Dissolved Oxygen=mg/l; Alkalinity=mg/l; Flow Rate/ Depth to waterft.; Depth of wellft.; Perforation Intervalft.; Casing:	
pH=; Conductivity= 6/00 umho/cm at 12.5 °C; Chlorine Residual=mg/l Dissolved Oxygen=mg/l; Alkalinity=mg/l; Flow Rate/ Depth to waterft.; Depth of wellft.; Perforation Intervalft.; Casing: Sampling Location, Methods and Remarks (i.e. odors, etc.)	
pH=; Conductivity=	
pH=; Conductivity= 6/00 umho/cm at 12.5 °C; Chlorine Residual=mg/l Dissolved Oxygen=mg/l; Alkalinity=mg/l; Flow Rate/ Depth to waterft.; Depth of wellft.; Perforation Intervalft.; Casing: Sampling Location, Methods and Remarks (i.e. odors, etc.)	24
pH=; Conductivity=6/00 umho/cm at 12.5 °C; Chlorine Residual=mg/l Dissolved Oxygen=mg/l; Alkalinity=mg/l; Flow Rate/ Depth to waterft.; Depth of weilft.; Perforation Intervalft.; Casing: Sampling Location, Methods and Remarks (i.e. odors, etc.) MW#5 at well site GCU# 153 E east of Farming ton Sampled after numitar well installation; purged before sample I certify that the results in this block, accurately passed to my field analyses, observations	and ,
Dissolved Oxygen=mg/l; Alkalinity=mg/l; Flow Ratemg/l; Perforation Intervalft.; Casing:	and ,
pH=; Conductivity=6/00 umho/cm at 12.5 °C; Chlorine Residual=mg/l Dissolved Oxygen=mg/l; Alkalinity=mg/l; Flow Rate/ Depth to waterft.; Depth of weilft.; Perforation Intervalft.; Casing: Sampling Location, Methods and Remarks (i.e. odors, etc.) MW#5 at well site GCU# 153 E east of Farming ton Sampled after numitar well installation; purged before sample I certify that the results in this block, accurately passed to my field analyses, observations	and ,
Dissolved Oxygen=mg/l; Alkalinity=mg/l; Flow Rate	and ,
pH=; Conductivity=6/00 umho/cm at 12.5 °C; Chlorine Residual=mg/l Dissolved Oxygen=mg/l; Alkalinity=mg/l; Flow Rate/ Depth to waterft.; Depth of wellft.; Perforation Intervalft.; Casing: Sampling Location, Methods and Remarks (i.e. odors, etc.) MW#5 at well site GCU#/53E est of Farming ton Sampled after number well installation, pursed before Sample I certify that the results in this block accurately reflect the results of my field analyses, observations activities.(signature collector): 7/illian Clara Method of Shipment to the La This form accompanies Septum Vials, Glass Jugs, and/or	and ,
Dissolved Oxygen= mg/l; Alkalinity= mg/l; Flow Rate Depth to water ft.; Depth of well ft.; Perforation Interval ft.; Casing: Sampling Location, Methods and Remarks (i.e. odors, etc.) Minimum for the strength for the formulation of the formulation for the formulat	and ,
Dissolved Oxygen= mg/l; Alkalinity= mg/l; Flow Rate Depth to water ft.; Depth of well ft.; Perforation Interval ft.; Casing: Sampling Location, Methods and Remarks (i.e. odors, etc.) Minimum for manifer well installation; pursed before Sample I certify that the results in this block accurately perfect the results of my field analyses, observations activities (signature collector): Tillian Method of Shipment to the La This form accompanies Septum Vials, Glass Jugs, and/or Samples were preserved as follows: NP: No Preservation; Sample stored at room temperature. P-Ice Sample stored in an ice bath (Not Frosen). P-Na S O Sample Preserved with Sodium Thiosulfate to remove chlorine residual.	and hend
Dissolved Oxygen= mg/l; Alkalinity= mg/l; Flow Rate	and hend
Dissolved Oxygen=mg/l; Alkalinity=mg/l; Flow Rate	and hand
Dissolved Oxygen=mg/l; Alkalinity=mg/l; Flow Rate	and hand
Dissolved Oxygen=mg/l; Alkalinity=mg/l; Flow Rate	and hand

This sample was tested using the analytical scr	eening method(s)	checked below:	
PURGEABLE SCREENS		EXTRACTABLE SCREENS	
(753) Aliphatic Purgeables (1-3 Carbons)		(751) Aliphatic Hydrocarbons	
(754) Aromatic & Halogenated Purgeables		(760) Organochlorine Pesticides	
(765) Mass Spectrometer Purgeables		(755) Base/Neutral Extractables	
(766) Trihalomethanes		(758) Herbicides, Chlorophenoxy acid	
Other Specific Compounds or Classes	1	(759) Herbicides, Triasines	
		(760) Organochlorine Pesticides	
		(761) Organophosphate Pesticides	
		(767) Polychlorinated Biphenyls (PCB's)	
		(764) Polynuclear Aromatic Hydrocarbons	
		(762) SDWA Pesticides & Herbicides	
\ <u>\</u>			
A	VALYTICA	LRESULTS	
COMPOUND(S) DETECTED	CONC.	COMPOUND(S) DETECTED	CONC.
	[PPB]		[PPB]
na logenated burgoakles	ND		
			ì
+: /	410		
aromatic purgeables	ND*		
/ /	1 1]	ļ
		! ·	
• .	-1		
	1	·	\
	" (low)		(40)
COAM O TIC PETECTION LIMIT . *	1		Distrib
aramalic Detection Limit . A	JEpph 1	halogonalod + DETECTION LIMIT + T	Toph
ABBREVIATIONS USED:	11	O	//
N D = NONE DETECTED AT OR ABOV	E THE STATED	DETECTION LIMIT	
T R = DETECTED AT A LEVEL BELOW			
		OR WITH APPROXIMATE QUANTITATION	
•	•	• • • • • • • • • • • • • • • • • • • •	
LABORATORY REMARKS: * A signific	ant an	rount of one other compou	nd
that aluted only was	datas tod	by the aromatic sere	• •
el it is a distribute	1 st	of the a townam server	
That was not identifie	1 XIT Z	ould be a field tonlam	nant
such as a cetame, as	t roul	Id he a Stabit weight w	ncit-
7.1/2/	A.	A STATE OF S	- Saa
mared hydrocarbon,	or perh	aps MEKE	
CERTIFIC	ATE OF ANALY	TICAL PERSONNEL	į
	~~~		07
Seal(s) Intact: Yes No . Seal(s) broken	by:	mey date: 4-24-	
i certify that I followed standard laboratory proced	dures on handling	and analysis of this sample unless otherwise noted	and
that the statements on this page accurately reflect	<u> </u>		}
Date(s) of analysis: 4-24-87 . Analyst's	signature:	Jamey	
I certify that I have reviewed and concur with th		ts for this sample and with the statements in this	block.
Reviewers signature: K. Meyer her	MAY 2	6 <b>567</b>	



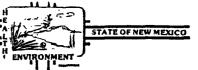
New Mexico Health and Exponment Department SCIENTIFIC LABORATORY DIVISION 700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

### GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 3	20 187	LAB WC -864	USER _ 59300	D □ 59600 XX C	THER: 82	235	
Collection DATE 3   18   87  Collection TIME		SITE INFORM- >	Sample location We	11 A - 1 H .	53 E	Near Farming	ton.
1325		ATION	Collection site description	Buck of	Windy's	Junkyerd	
Collected by — Person/A	gency 0/30m	/OCD		DECIL 61	- Wired ?	Unnkyczą	
SEND SINAL SEPORT	M OIL CO State Lar	ENTAL BUREAU DNSERVATION DIV nd Office Bldg , NM 87504-208	• PO Box 208	3			
Phon	e: 827-	5812			Station/ well code	MW #5	
SAMPLING CO		JOIL			Owner A	<i></i>	
Bailed	□ Pump □ Tap	Water level		Discharge	J	Sample type	
pH (00400)		Conductivity (Unco		Water Temp. (00010)	<i>/</i> ~	Conductivity at 25°C (00094	
Field comments	1.7	610	ρ μmho	12	. <i>5</i> •c		μmho
Field comments	Empley	after monite	- well inst	allation, pur	sed be	tore sampled	
	,			, , , ,		,	
	TREATME	NT — Check prope					
No. of samples submitted	1 . 2	NF: Whole sample (Non-filtered)	F: Filtered in	field with	ml H ₂ SO ₄ /	L added	
	<u> </u>		<del></del>				
MA: No aci	d added L	Other-specify:	□A:	omi conc. HNO3 ad	ded 🗀 A	A: 4ml fuming HNO	added
ANALYTICAL R	ESULTS fn	om SAMPLES					
, NA			Units Date analyze	From $NF$ , 1	a Come 2 Ai	: Date	
Conductivity (C 25°C (00095)	orrected)	8075	umho 3/24		AV SENTILE	Analyzed	
☐ Total non-filtera	ble		•	☑ Calcium	408	mg/1 <i>\/4</i>	
residue (susper (00530)			ma/l	Potassium	11.3/	mg/1 <i>4</i> //	
Other:		pH=8.34	mg/l	Magnesium _		mg/1 4/8	
☐ Other:	_			Sodium	2033	mg/1 4/1	
Other:	_			Bicarbonate		mg/1 3/25	
A-H₂SO₄		<u> </u>		<b>-</b> /	2/0		<del></del>
☐ Nitrate-N+, Nit	rate-N			Chloride _	207	1:0/0	
total (00630)			mg/l	Sulfate	4157	$\frac{7}{2}$ mg/1 $\frac{3/2}{2}$	
☐ Ammonia-N tot			mg/l	- ☐ Total Solid	s 7290	<u> </u>	
☐ Total Kjeldahl-N ( )	ł		mg/l				
☐ Chemical oxyge							
demand (00340	_		mg/l	-  U <del></del>			·
☐ Total organic ca	Irbon		mg/l	Cation/Ar	ion Pai	lance 1/3	7o
☐ Other:						<b></b>	
☐ Other:				- Analyst		eported Reviewed by	
Laboratory remarks	8 > 6 4	, ,			17	13 17 100	
	Ontil-	tereb samo	De usel	in HCO-	<u> </u>	- de- [CO]	= 2.4/
		7		ر <i>س</i> ی	5		
	<u>-</u>						
FOR OCD USE	Date	Owner Notifie	ed	Phone or Lette	er?	Initals	



## 754 WPW Albuquerque, NM 87106 841-2570



REPORT TO: David Boyer	S.L.D. No. OR- 87-0341 AB
N.M. Oil Conservation Division	
P. 0. Box 2088	DATE REC
Santa Fe, N.M. 87504-2088	PRIORITY
	USER CODE:   8   2   2   3   5
David Royan	CODE: 12   6   0
	<del></del>
SAMPLE COLLECTION CODE: (YYMMDDHHMMIII)   17   0 SAMPLE TYPE: WATER [7], SOIL [7], FOOD [7], OTHER:	
SAMPLE TYPE: WATER [7], SOIL [7], FOOD [7], OTHER:	CODE:
COUNTY: Sen Juan ; CITY: Farming to	CODE: [
LOCATION CODE: (Township-Range-Section-Tracts) 2 9 N	
ANALYSES REQUESTED: Please check the appropriate box(es) be required. Whenever possible list specific compounds suspected or rec	
PURGEABLE SCREENS	EXTRACTABLE SCREENS
(753) Aliphatic Purgeables (1-3 Carbons)	(751) Aliphatic Hydrocarbons
(754) Aromatic & Halogenated Purgeables	(760) Organochlorine Pesticides
(765) Mass Spectrometer Purgeables (766) Trihalomethanes	(755) Base/Neutral Extractables (758) Herbicides, Chlorophenoxy acid
Other Specific Compounds or Classes	(759) Herbicides, Triasines
	(760) Organochlorine Pesticides
	(761) Organophosphate Pesticides
	(767) Polychlorinated Biphenyls (PCB's)
	(764) Polynuclear Aromatic Hydrocarbons (762) SDWA Pesticides & Herbicides
	(10s) DD WA E COSSICIONS OF INCLUDES
Remarks:	
PIELD DATA:  pH=; Conductivity= 4/00 umho/cm at/4°C; Chlore	ine Besiduel - mg/l
Dissolved Oxygen=mg/l; Alkalinity=mg/l; Flow Rate	
Depth to waterft.; Depth of wellft.; Perforation I	
Sampling Location, Methods and Remarks (i.e. odors, etc.)	
MU#6 at Amoco well site GCU#153 E	and of Francis
sampled after monitor well installation,	1 1 1 1 1
I certify that the results in this, black accurately reflect the result	TUTTE SEMINE
activities.(signature collector): Wallan Wan	is of my field analyses, observations and
This form assembles 3 Continue Mark 15	s of my field analyses, observations and  Method of Shipment to the Lab:
This form accompanies Septum Vials, Glass Jugs, ar Samples were preserved as follows:	s of my field analyses, observations and  Method of Shipment to the Lab:
This form accompanies 2 Septum Vials, Glass Jugs, ar Samples were preserved as follows:  NP: No Preservation; Sample stored at room temperations	ts of my field analyses, observations and Method of Shipment to the Lab:
Samples were preserved as follows:  NP: No Preservation; Sample stored at room temperate P-Ice Sample stored in an ice bath (Not Frosen).	ts of my field analyses, observations and Method of Shipment to the Lab:  Macdon  ture.
Samples were preserved as follows:  NP:  No Preservation; Sample stored at room temperate process.  P-Ice  Sample stored in an ice bath (Not Frosen).  P-Na ₂ S ₂ O ₃ Sample Preserved with Sodium Thiosulfate to remaining the process of the preserved with Sodium Thiosulfate to remaining the preserved with Sodium Thiosulfate the preserved with Sodium Thiosulfate the Preserved with Sodium Thiosulfate the Preserve	ts of my field analyses, observations and Method of Shipment to the Lab:  Macdon  ture.
Samples were preserved as follows:  NP: No Preservation; Sample stored at room temperate P-Ice Sample stored in an ice bath (Not Frosen).  P-Na_SO Sample Preserved with Sodium Thiosulfate to reserved of CUSTODY	ts of my field analyses, observations and Method of Shipment to the Lab: hand nd/or ture.
Samples were preserved as follows:  NP: No Preservation; Sample stored at room temperate processing Price Sample stored in an ice bath (Not Frosen).  P-Na S O Sample Preserved with Sodium Thiosulfate to remove the process of the process of the process of the process of the preserved with Sodium Thiosulfate to remove the process of the preserved with Sodium Thiosulfate to remove the process of the preserved with Sodium Thiosulfate to remove the preserved with Sodium Thiosulfate th	ts of my field analyses, observations and  Method of Shipment to the Lab:  ture.  Move chlorine residual.
Samples were preserved as follows:  NP: No Preservation; Sample stored at room temperate P-Ice Sample stored in an ice bath (Not Frosen).  P-Na 50 Sample Preserved with Sodium Thiosulfate to reserved of CUSTODY  I certify that this sample was transferred from William (O at (location) M.//, State Leg (ABQ)	ts of my field analyses, observations and Method of Shipment to the Lab:  ture.  move chlorine residual.    Gen to Gen Eden     on 3 / 20 / 8-7 - 3 : 30 ph and that
Samples were preserved as follows:  NP: No Preservation; Sample stored at room temperate P-Ice Sample stored in an ice bath (Not Frosen).  P-Na SO Sample Preserved with Sodium Thiosulfate to remove that this sample was transferred from William O at (location)  All State Leb Aba  the statements in this block are correct. Evidentiary Seals: Not Se	ts of my field analyses, observations and Method of Shipment to the Lab:  ture.  move chlorine residual.    Gen to Gen Eden on 3 / 20 / 8-7 - 3 : 30 ph and that
Samples were preserved as follows:  NP: No Preservation; Sample stored at room temperate P-Ice Sample stored in an ice bath (Not Frosen).  P-Na 50 Sample Preserved with Sodium Thiosulfate to reserved of CUSTODY  I certify that this sample was transferred from William (O at (location) M.//, State Leg (ABQ)	ts of my field analyses, observations and Method of Shipment to the Lab:  ture.  move chlorine residual.    Gen to Gen Eden     on 3 / 20 / 8-7 - 3 : 30 ph and that

This samp	le was tested using the analytical se	creening method(s)	checked below:	
	PURGEABLE SCREENS		EXTRACTABLE SCREENS	,
(753)	Aliphatic Purgeables (1-3 Carbons)		(751) Aliphatic Hydrocarbons	
	Aromatic & Halogenated Purgeables		(760) Organochlorine Pesticides	-
	Mass Spectrometer Purgeables		(755) Base/Neutral Extractables	
	Trihalomethanes		(758) Herbicides, Chlorophenoxy scid	
	Other Specific Compounds or Class	es	(759) Herbicides, Triasines	
	•		(760) Organochlorine Pesticides	
Ħ			(761) Organophosphate Pesticides	
Ħ			(767) Polychlorinated Biphenyls (PCB's)	
			(764) Polynuclear Aromatic Hydrocarbons	
			(762) SDWA Pesticides & Herbicides	
	<u>A</u>	NALYTICA	AL RESULTS	
	COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC.
1/4/	- T. I huner lla	S ND*		
Maro	genaled purgeable	S ND.		
11.70	natio Duracable	· ND*		
	·			
<u> </u>				
		]	i	
<u> </u>				
ļ				
į				i
24	tic * DETECTION LIMIT * >	2 7 1		25 /
Wioma	LC * DETECTION LIMIT *	1/0/16	halogenated + DETECTION LIMIT + T	1 app 1
ABBREVL	ATIONS USED:	7/	0	71
N D	= NONE DETECTED AT OR ABO	VE THE STATES	D DETECTION LIMIT	
T R	= DETECTED AT A LEVEL BELO	OW THE STATED	DETECTION LIMIT (NOT CONFIRMED)	
			OR WITH APPROXIMATE QUANTITATION	
	*4-			
LABORATOR	Y REMARKS: A Trace a	mounto	I one larly eluling haloc	asbon
was di	Tectod ky the halo	agnoted &	expen that was not iden	this
7.	1 4: -		0+ +10. H.	
TWO	sly iturng comp	sounds 1	vere delector by the aroma	the c
Acreer	that were not	dentifie	I the first one was a su	mili-
cant a	mount and the se	cond but	was only a trace much	and it
				erry
	CERTIFI	CATE OF ANALY	YTICAL PERSONNEL	
Seal(s) Intact	: Yes 📉 No 🔲. Seal(s) broken	ı by:	mnec date: 4-22-	<u>87                                     </u>
			g and analysis of this sample unless otherwise noted	and
that the stat	ements on this page accurately reflec	et the analytical r	esults for this sample.	
	nalysis: <u>4-22-87</u> . Analyst's	70	Tuney	
I certify that Reviewers sign	// \>	· ·	lts for this sample and with the statements in this 26 1987	block.
	- Company	KA 90		
	7			



New Mexico Health and Encomment Department SCIENTIFIC LABORATORY DIVISION 700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

859 wnn

## GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

	9, NM 8/100 (505) 841-2	2000			
DATE RECEIVED 3 20187	100 WC-865	USER CODE 59300	59600 ^{XX} 0	THER: 8223	5
Collection DATE 5 1/6   87	SITE	Sample location Wel	1 00 #		of Farmington
Collection TIME	INFORM- ► ATION				
Collected by — Person/Agency	/000	Collection site description	Back of Wil	dy's June	kyard
Boyer, Olson	/OCD		······································	1	<u> </u>
CAULTOON	ICNTAL DUDEAU				
ENVIRUNM SEND NM OIL C	IENTAL BUREAU CONSERVATION DIV	/ISION			
INAL State La	ind Office Bldg,	, PO Box 208	3		
Santa Fe	, NM 87504-208	8			***************************************
Attn: <u>David</u>	Boyer				***************************************
· Dhama. 007	F010			Station/ well code	V#6
Phone: 827				Owner /	
SAMPLING CONDITIONS  Bailed □ Pump	Water level		Discharge		OCO
☐ Dipped ☐ Tap	Water level		Discharge	38	ample type 9/26
pH (00400)	Conductivity (Unco		Water Temp. (00010)	Co	onductivity at 25°C (00094)
Elald	410	O μmho	14.0	5 °C	µmho
Field comments	after monitor	r well inst	allation, purse	d before	sampling
	• • • • • • • • • • • • • • • • • • • •		' ) / )	,	
AMPLE FIELD TREATM	<del></del>		0 - Lat 246-		
No. of samples submitted	NF: Whole sample (Non-filtered)	F: Filtered in 0.45 µmer	mbrane filter	mi H₂SO₄/L a	dded.
NA: No acid added	☐ Other-specify:	□A:	5ml conc. HNO3 ad	ded □A:	4ml fuming HNO ₃ added
			3-2 00:00 12:03		
NALYTICAL RESULTS f	rom SAMPLES	Units Date analyze	41		
Conductivity (Corrected)			From <u>NF</u> , I	VA Sample:	Date Analyzed
25°C (00095)	5238	umho 3/24	-		<del></del>
☐ Total non-filterable			데 Calcium	449	mg/1 <u>4/4</u>
residue (suspended)			Potassium _	8.58	mg/1 u/
(00530) Other:	DH = 7.70	mg/1	Magnesium _	,	mg/1 4/4
☐ Other:			Sodium	1014	
☐ Other: _			Bicarbonate		mg/1 3/25
A-H ₂ SO ₄			Chloride	117	mg/1 $3/25$
☐ Nitrate-N + , Nitrate-N				3104	/:0/40
total (00630)		mg/l	Sulfate		
<ul><li>☐ Ammonia-N total (00610) _</li><li>☐ Total Kieldahl-N</li></ul>		mg/l	-   図 Total Solid	s <u>4776</u>	_mg/13/3/
( ') _		mg/l	-		
☐ Chemical oxygen demand (00340)		mg/l			
☐ Total organic carbon					1432
( ) <u></u> Other: _		mg/l	- Cation/Ar	nion Bala	nce posticulate
☐ Other: _			Analyst	Date Repo	
				14 13	87 00
Laboratory remarks	Leval sample	used in	HCO- la	<u>.</u>	
	F		3 4		M
***************************************				**********************	P

FOR OCD USE -- Date Owner Notified___

Phone or Letter? Initals

## SCENTIFIC LABORATORY DIVISION: 700 Camino de Salud NE 754 wpw Albuquerque, NM 87106 841-2570



STATE OF NEW MEXICO

REPORT TO:	David Boyer	S.L.D. No. OR-87-0348 AB
	N.M. Oil Conservation Division	DATE REC. 3-20-87
•	P. O. Box 2088	
	Santa Fe, N.M. 87504-2088	PRIORITY
PHONE(S):	827 <b>-</b> 5812	JSER CODE: 8 2 2 3 5
SUBMITTER:	David Boyer	CODE: [2   6   0
SAMPLE COLLE	ECTION CODE: (YYMMDDHHMMIII) 181710131	11811131515111
SAMPLE TYPE:	WATER [7], SOIL [1], FOOD [1], OTHER:	CODE:
COUNTY: Sa.	Juan ; CITY: Fermington	CODE:
LOCATION COL	E: (Township-Range-Section-Tracts) $ 2 9 N+1 2$	- W+2 S+1 2  (10N06E24342)
	QUESTED: Please check the appropriate box(es) below to	indicate the type of analytical screens
required. Whenev	er possible list specific compounds suspected or required. PURGEABLE SCREENS	EXTRACTABLE SCREENS
(753) Alipha		(751) Aliphatic Hydrocarbons
(754) Aroma		(760) Organochlorine Pesticides
		755) Base/Neutral Extractables
[ (766) Trihal		(758) Herbicides, Chlorophenoxy acid
Other	<u> </u>	(759) Herbicides, Triasines
H —		(760) Organochlorine Pesticides (761) Organophosphate Pesticides
<b>-</b>		(767) Polychlorinated Biphenyls (PCB's)
_		(764) Polynuciear Aromatic Hydrocarbons
		(762) SDWA Pesticides & Herbicides
Berneles		•
Remarks:		
FIELD DATA:		
	onductivity=29500 umho/cm at	dual= mg/l
	mg/l; Alkalinity=mg/l; Flow Rate	
	ft.; Depth of well ft.; Perforation Interval	
Sampling Location	on, Methods and Remarks (i.e. odors, etc.)	
MW#7 6	+ as Amoco well site GCH#153E es,	L of Farmington
1 1	efter monition well installation, pursed 5	1
I certify that th	ie results in this blook accurately reflect the results of my	
		ethod of Shipment to the Lab:
	panies Septum Vials, Glass Jugs, and/or	
	eserved as follows:	
□ NP:	No Preservation; Sample stored at room temperature.	·
P-Ice P-Na_S_O_	Sample stored in an ice bath (Not Frosen).	
CHAIN OF CU	•	orine residual.
	nis sample was transferred from Villiam Olson	to Gary Eden
at (location)		20/87 - 3:30 and that
,	n this block are correct, Evidentiary Seals: Not Sealed	
	Hary C. Edon	
Signatures	- wing coun	
For OCD U	se: Date Owner Notified Phon	e or Letter? Initials

This sample was tested using the analytical scree	ning method(s)	shasked below:	
Time sample was sessed using the analytical screen	mmg meenog(s)	checked below:	•
PURGEABLE SCREENS		EXTRACTABLE SCREENS	
(753) Aliphatic Purgeables (1-3 Carbons)		(751) Aliphatic Hydrocarbons	
(754) Aromatic & Halogenated Purgeables		(760) Organochlorine Pesticides	
(765) Mass Spectrometer Purgeables		(755) Base/Neutral Extractables	
(766) Trihalomethanes		(758) Herbicides, Chlorophenoxy acid	
Other Specific Compounds or Classes		(759) Herbicides, Triasines	
		(760) Organochlorine Pesticides (761) Organophosphate Pesticides	
		(767) Polychlorinated Biphenyls (PCB's)	
		(764) Polynuclear Aromatic Hydrocarbons	
	<del></del>	(762) SDWA Pesticides & Herbicides	
AN	ALVTICA	AL RESULTS	
	ALT HEA	AL ALSOLIS	
COMPOUND(S) DETECTED	CONC.	COMPOUND(S) DETECTED	CONC.
	[PPB]		[PPB]
halogenated burgeables	I ND I		
+ 14 0 10.	NIX		
aromano Mingeables	/V./)*		
, 0			
			]
	1		
	1 1		<b>!</b>
	<del>   </del>		
		•	
	<del>  </del>		
aromatic Detection Limit . *	200	halogenated+ DETECTION LIMIT ++	ppb
ABBREVIATIONS USED:	, ,	V	<i>' (</i>
N D = NONE DETECTED AT OR ABOVE	THE STATE	D DETECTION LIMIT	
T R = DETECTED AT A LEVEL BELOW	THE STATED	DETECTION LIMIT (NOT CONFIRMED)	
[ RESULTS IN BRACKETS ] ARE UNCONF	IRMED AND/	OR WITH APPROXIMATE QUANTITATION	
•			
** ***	1 2	t lass the state	/
LABORATORY REMARKS: * A signific	and un	rought of one other compor	ing
That eluted carly was	detecten	by the aromatic screen	that
was not identified &	H coul	de lielstantening	t curl
The state of the s	- Cym	s vea free commenter	1 such
as acelone or it could	1 sea	light weight uncalural	col .
histocarbon, or perhaps	MLBE,	V O	Į
		1/2//	07
CERTIFICAT	TE OF ANALY	TICAL PERSONNEL 4-24-	8/
Seal(s) Intact: Yes No . Seal(s) broken by	" Star	nay date: 4-22-	87
I certify that I followed standard laboratory procedu	on handling	g and analysis of this sample unless otherwise note	d and
that the statements on this page accurately reflect	he analytical r		Į
Date(s) of analysis: 4-22-874-24-8 Analyst's sign	mature:	Timey	
I certify that I have reviewed and concur with the			block.
Reviewers signature: Kneybull	MAY	<u>26 1987</u>	
——————————————————————————————————————			



New Mexico Health and Bonnment Department S 5 9 W 17 10 SCIENTIFIC LABORATORY DIVISION 700 Camino de Salud NE Albuquerque, NM 87106 — (505) 841-2555

## GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 3	120187 h	18. WC-8'66	USER 59300	59600 XX	OTHER: 82	235		
Collection DATE 3   18   87  Collection TIME		SITE INFORM- >	Sample location Vel	1 GCU #153	E exst	-of F	Ermhston	
Collected by — Person/A	gency	ATION	Collection site description	Beck of h	lindu's	Junky	16.00	
Boyer		/OCD			7			
SEND FINAL SEPORT TO	NM OIL CONS State Land	TAL BUREAU SERVATION DIV Office Bldg, NM 87504-2088 yer	, PO Box 2088	3				
Phon	e: 827-58	312			Station/ well code	MW 1	<b>47</b>	
SAMPLING COL	NDITIONS				Owner	moco		
	☐ Pump ☐ Tap	Water level		Discharge		Sample typ	grab	
pH (00400)	<u> </u>	Conductivity (Uncor		Water Temp. (00010)	<i>13</i> •c	Conductivit	ry at 25°C (00094)	
Field comments	= 1/	D. 1	11 \ 1	// L:	1 /2/		1	µmho
	Sampler	atter monite	or well that's	llation, purse	U BETOR	2 samp	wling	,
04401 5 5151 5	,	- 01 - 7			<u> </u>			
No. of samples	T /	T — Check prope  Whole sample	<b></b>	field with				
submitted	] ©/NI	(Non-filtered)		nbrane filter	2 ml H₂SO₄/	L added		
NA: No aci	d added 🗆 0	Other- <i>specify:</i>	□A:	5ml conc. HNO3 ac	ided 🗆 🛭	: 4ml f	uming HNO ₃	added
ANALYTICAL R	ESULTS from	SAMPLES						
NA Conductivity (C 25°C (00095)	Corrected)		Units Date analyzed	From <u>NF</u> ,	NA Sample	:\$	Date Analyzed	
☐ Total non-filtera residue (susper (00530)	ble		mg/l	Calcium Potassium	, 25.	<u>/</u> _mg/1_	414 41 48	
Other:		pn - 4.72	3/45	Magnesium Sodium	323	mg/1_ <i>9445</i> mg/1	4/14	
☐ Other:				Bicarbonate			3/25	
A-H ₂ SO ₄				Chloride	670		<del></del>	
☐ Nitrate-N+, Nit total (00630)	rate-N		mg/l	Sulfate	29853		3/27	
☐ Ammonia-N tot	ai (00610)		mg/l	Total Solid	is 44.72	6 mg/1	- 3(5)	
☐ Total Kjeldahl-N	·		mg/l	<u> </u>				
☐ Chemical oxygeneral communication   ☐ Chemical oxygeneral (00340)			mg/l					<u> </u>
Total organic ca	arbon		mg/l			1	particul	1 97
Other:				Cation/A Analyst	Date Re		Reviewed by	210
Laboratory remarks	· Ontil	level sam	de used	n HCOz	det.		- 0	
						***************************************		
FOR OCD USE	Date (	Owner Notifie	d	Phone or Lett	er?	In	itals	



New Mexico Health and Environment Department 859 wmm SCIENTIFIC LABORATORY DIVISION 700 Camino de Salud NE

Albuquerque, NM 87106 - (505) 841-2555

## GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE	20100	LAB O/ & USER -	<del>\</del>	02225
DATE RECEIVED 3		Sample location (	300 59600 6	OTHER: 82235
3/8/8/	7	INFORM-	lell GCU #153	E east at Farmington
Collection TIME_ 14 45		ATION Collection site descrip	otion p L	11.11 51. 1
1445 Collected by — Person Boyce	Agency Olson	/OCD	Back of	Windy's Junkyard
7	<del> </del>			
		NTAL BUREAU		
END INAL	NM OIL CON	NSERVATION DIVISION	188	
EPORT	State Land	d Office Bldg, PO Box 20 NM 87504-2088	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
) 	n: <u>David Bo</u>			
Aur	1	Jy.E.L	************************	Constant
Pho	one: 827 <b>-</b> 5	812	4	well code Ger Green Pond
AMPLING CO	ONDITIONS			Owner
☐ Bailed	□ Pump	Water level	Discharge	Sample type
Dipped		0-1-1-1-1	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	01
pH (00400)		Conductivity (Uncorrected) 5 2 5 0 μmho	Water Temp. (00010)	/3.5 °C   Conductivity at 25°C (00094) μmh
Field comments				
	***************************************	***************************************		
·				***************************************
AMPLE FIEL	D TREATMEN	IT — Check proper boxes		
No. of samples		Whole sample E. Filtered	in field with	2 ml H ₂ SO ₄ /L added
submitted		(Non-filtered) 0.45 μπ	nemorane iliter	
☑ NA: No a	cid added	Other-specify:	5ml conc. HNO ₃ a	dded □A: 4ml fuming HNO ₃ adde
NALYTICAL	RESULTS from	m SAMPLES		
NA		Units Date analy	rom <u>NF</u> ,	NA Sample: Date
Conductivity ( 25°C (00095)		6922umho 3/24	- , ,	Analyzed
Total non-filte	rable		Calcium	<u>46/</u> mg/1 <u>4/4</u>
residue (susp (00530)	pended)	mg/l	Potassium	65.7 mg/7 4/1
⊘Other:		oft => 8,02	Magnesium	70 mg/1 4/8
Other:		3/25	─ 図 Sodium	
Other:			Bicarbonate	
A-H₂SO₄			Chloride	
☐ Nitrate-N+, N	Nitrate-N		Sulfate	3920 mg/1 3/27
total (00630)		mg/l	/ /	
Ammonia-N to Total Kjeldahl		mg/l	— ☐ Total Solid	ds <u>6248</u> mg/1 <u>4/8</u>
( )		mg/l	_  <del>;                              </del>	
<ul> <li>Chemical oxy demand (003</li> </ul>		mg/l	_   🖸	
Total organic		-		(419
(  ) □ Other:	<del></del>	mg/l		nion Balance M.
Other:			Analyst	Date Reported Reviewed by
	-1			4 13 87
Laboratory remai	rks HCO,	det. above until	Hered.	
FOR OCD US	SE Date	Owner Notified	Phone or Lett	er? Initals