

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

1220 South St. Francis Drive, Santa Fe, NM 87505



ADMINISTRATIVE APPLICATION CHECKLIST

. 1	HIS CHECKLIST IS N	ANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE
Appli	[DHC-Dow [PC-Po	s: ndard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication] nhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling] of Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement] [WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion] [SWD-Salt Water Disposal] [IPI-Injection Pressure Increase] lified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]
[1]	TYPE OF AP [A]	PLICATION - Check Those Which Apply for [A] Location - Spacing Unit - Simultaneous Dedication NSL NSP SD
	Check [B]	One Only for [B] or [C] Commingling - Storage - Measurement DHC CTB PLC PC OLS OLM TO
	[C]	Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
	[D]	Other: Specify
[2]	NOTIFICATI [A]	ON REQUIRED TO: - Check Those Which Apply, or Does Not Apply (()
	[B]	If Offset Operators, Leaseholders or Surface Owner
	. [C]	Application is One Which Requires Published Legal Notice
	[D]	Notification and/or Concurrent Approval by BLM or SLO U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office
	[E]	For all of the above, Proof of Notification or Publication is Attached, and/or,
	[F]	Waivers are Attached
[3]		URATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE FION INDICATED ABOVE.
41	CERTIFICAT	ION: Thereby certify that the information submitted with this application for administrative

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is accurate and complete to the best of my knowledge. I also understand that no action will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Sam_Brandon	Santorando	-Operations Engineer	<u>9-3-02</u>
Print or Type Name	Signature	Title	Date

e-mail Address

TATE OF THEM INELLO NERGY, MINERALS AND NATURAL ESOURCES DEPARTMENT .

ULL CUNSERVATION DIVISION 2040 SOUTH PACHECO SANTA FE, NEW MEXICO 87505

11 C. 11 MAY

2

	APPLICATION FOR AUTHORIZATION TO INJECT
	PURPOSE: Secondary Recovery Pressure Maintenance Disposal Storage Application qualifies for administrative approval? X Yes No
	OPERATOR:YATES PETROLEUM CORPORATION
	ADDRESS: 105 South Fourth Street, Artesia, NM 88210
	CONTACT PARTY: <u>Sam Brandon</u> PHONE:(505) 748-4281
[.	WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.
<i>r</i> .	Is this an expansion of an existing project? Yes X No If yes, give the Division order number authorizing the project:
	Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
[.	Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
Π.	Attach data on the proposed operation, including:
	 Proposed average and maximum daily rate and volume of fluids to be injected; Whether the system is open or closed; Proposed average and maximum injection pressure; Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and, If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
ΊΠ.	Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.
	Describe the proposed stimulation program, if any.
٢	Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).
I.	Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
I.	Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.
II.	Applicants must complete the "Proof of Notice" section on the reverse side of this form.
.V.	Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
	NAME:Sam BrandonTITLE:Operations Engineer
	NAME: Sam Brandon Operations Engineer SIGNATURE: DATE: 9/03/2002
	If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal:

.

STRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

MARTIN YATES, III 1912 - 1985 FRANK W. YATES 1936 - 1986



S. P. YATES CHAIRMAN OF THE BOARD JOHN A. YATES PRESIDENT PEYTON YATES EXECUTIVE VICE PRESIDENT RANDY G. PATTERSON SECRETARY DENNIS G. KINSEY TREASURER

105 SOUTH FOURTH STREET ARTESIA, NEW MEXICO 88210-2118 TELEPHONE (505) 748-1471

September 3, 2002

Marathon Oil Co. P.O. Box 552 Midland, Texas 79702 Attn: Operations

Dear Sir or Madam:

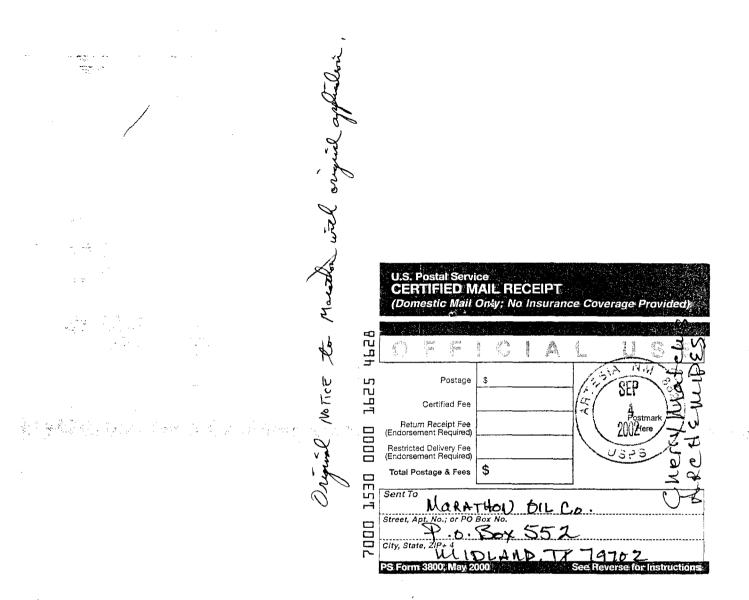
Enclosed please find a copy of Form C-108 (Application for Authority to Inject) for the proposed Archimedes SWD #1 located in Section 18-T21S-R24E, Eddy County, New Mexico.

Should you have any questions, please feel free to contact me at (505) 748-4281.

Sincerely, 31

Sam Brandon Operations Engineer

Enclosure



Attachment F

C-108 Application for Authorization to Inject Yates Petroleum Corporation Archimedes SWD No. 1 Section 18, T-21S-R24E Eddy County, New Mexico

Available engineering and geologic data have been examined and no evidence of open faults of hydrologic connection between the disposal zone and any underground sources of drinking water has been found.

nly

John Humphrey Geologist Yates Petroleum Corporation

9/3/02

Date

C-108 Application for Authorization to Inject Yates Petroleum Corporation Archimedes ARE State Com #1 18-21S-24E Eddy County, New Mexico

I. The purpose of completing this well is for disposal of produced Canyon water into the Canyon.

60 (20) (17) 2151 F5L 335FWL (17) 2151 F5L 335FWL (17) 2151 F5L 335FWL (17) 2151 UNIT # 015 29870 30-015-29870 30-015-29870

- II. Operator: Yates Petroleum Corporation 105 South Forth Street Artesia, NM 88210 Sam Brandon (505) 748-4281
- · III. Well Data: See Attachment A

IV. This is not an expansion of an existing pro

- V. See attached map, Attachment B.
- VI. There are no wells within the area of review penetrating the proposed injection zone.
- VII. 1. Proposed average daily injection volume approximately 20,000 BWPD. Maximum daily injection volume approximately 25,000 BWPD.
 - 2. This will be a closed system.
 - 3. Proposed average injection pressure: 1000 psi. Proposed maximum injection pressure: 2000 psi.
 - 4. Sources of injected water would be produced water from the Canyon. (Attachment C)
 - 5. See Attachment C.
- VIII. The injection interval is Canyon from 8032'- 8150'

Fresh water zones overlie the proposed injection formation at depths to approximately 1100 feet.

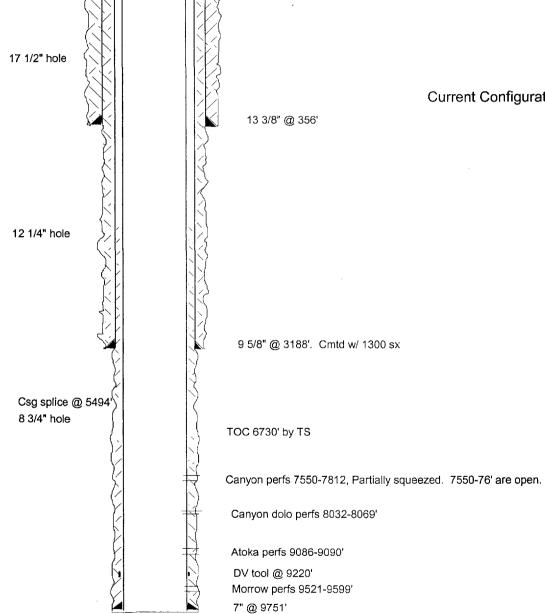
- IX. The proposed disposal interval may be acidized and acid fraced with 15-20% HCL acid.
- X. Logs were filed at your office when the well was drilled. Any new logs run after completing will also be submitted to your office.

- XI. There are no windmills that exist within a one mile radius of the subject location. One well produces "fresh" water from a well approximately 1.25 miles from the proposed SWD well. A chemical analysis of the water from this well is attached. (Attachment D)
- XII. See Attachment F.
- XIII. Proof of notice.
 - A. Surface owner is the State of New Mexico. Lessee is Ms. Patricia Schafer Lyman.
 - B. Copy of legal advertisement attached. (Attachment G)

XIV. Certification is signed.

Well Name:	Archimedes	SWD #1 Field	:_Indian Basi	n
Location:	1650' FSL & 19	80' FEL Sec. 18-21S-24	E Eddy Co, NM	I
GL: <u>3811'</u>	_ Zero: _	AGL:	KB:	3838'
Spud Date: Comments:		Completi	on Date:	

Casing Program				
Depth Set				
356'				
3188'				
9751'				



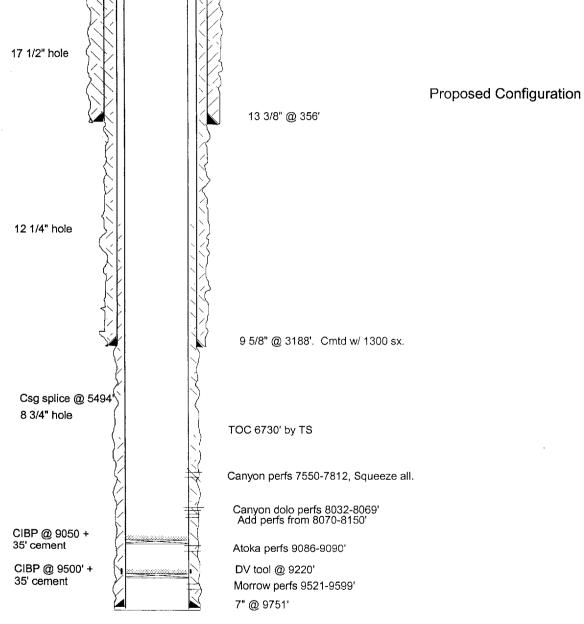
Current Configuration

DATE:_____

SKETCH NOT TO SCALE

TD 9751'

Well Name:	Archimedes S	WD #1 Fiel	d: Indian Basin	Casing Prog	am
Location:	1650' FSL & 198	0' FEL Sec. 18-21S-24	E Eddy Co, NM	Size/Wt/Grade/Conn	Depth Set
GL: <u>3811'</u>	Zero:	AGL:	KB: 3838'	13 3/8" 48#	356'
Spud Date:		Completi	on Date:	9 5/8" 36 & 40#	3188'
Comments:				7" 23 & 26#	9751'





SKETCH NOT TO SCALE

TD 9751'

DATE:

Yates Petroleum Corporation Archimedes SWD #1 18-21S-24E

Attachment A Page 1

- III. Well Data
 - A. 1. Lease Name/Location Archimedes SWD #1 18-21S-24E 1650' FSL & 1980' FEL
 - 2. Casing Strings:
 - a. Proposed well condition: 13 ³/₈" 48#, H40 ST&C at 356'
 9 ⁵/₈" 36 & 40# at 3188'
 7"23# J-55, 26# & 23# N-80 at 9751'
 4¹/₂" Plastic coated tubing (proposed) set at 8000' ±
 - 3. Propose to use Guiberson or Baker plastic-coated or nickel-plated packer set at 8000'±.
 - B. 1. Injection Formation: Canyon
 - 2. Injection interval into cased hole perforations 8032'- 8150'.
 - 3. Well was originally drilled as a Morrow well with perforations at 9521'-9599'. Additional zones were perforated at 9086'-9090', 8032'-8069' and 7550'-7812'. All open perforations above 8000' will be cement squeezed and pressure tested to ensure complete shut-off. Perforations below 8150' will be abandoned with CIBP and cement.
 - 4. Next higher (shallower) oil or gas zone within 2 miles Canyon Next lower (deeper) oil or gas zone within 2 miles Morrow.

<i>'n</i> ₽ ⁻	HBF Fars Percetal La Mile I	- ³ K ⁻ /877 (₩0) ⁶ FISO ± 36 ± 14155	Gas Corp. (/2)		Litution VEG Hasken	~64	i U. hasken (Citation Os,G.)	(Citation Oes)	Sanders Piggs TOS30
າ ເຊັ່ງ ເຊິ່	J.S. JAJY" 35 Mojare. "Fil -	FISO36 ' 'L''	43.17 23 42 53 24 42 30 25 42.20 28 Central Res.Inc)	Titen Pes etal	(Fasken / ond)		U. C. Fasken	HBH 3230377	1093e
7-Fea	AJY 35 Mojare. Fil - Superior Mil. 989 3 2 J.S.Covert 989 2 S.P. Jahnson. Jr	Fice State	25494	#8P 021029	Shell Fed	O Titon Res.et-1 114., Hoss 021029 Fem	(Citation DE,G)	1	Yates Pet a 3-1-2005 94582 552
1461 1	18 03 2'40 08 3'48 86 2'40 05 1		ج = 35 علمي علمي علمي علمي علمي علمي علمي علمي	Fosken Lund	t - " .jr g Titun Res etal	Duvid Fasken		Rass Ruggs	+
# ²	23 8k Z Marathon 23 8k Z Marathon 23 0k Z Marathon 24 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	3 Marathon Mai 04827 \$ 23Mil	Fea. 3 Min	- HBP 101856	118P 321029	(Citation 066) 0207950	Titan Res.etal	TO 945 D/AH-2-47	1
± .		5 2 2.3 Mil 29 76 5	39.80 जै43.09 हो बिट 63 उंटो – 6	0.Fosken		13 Wills 12 Wills 12 Wills Wills	421029 151 15 1 D.Fasken	t at a	+ , st
Mui	No indian Besin Ut 1) 26 * 3 and 1 1050 * 15 2 Mil 2 3 4 Mil	Pel 0.4827 φ ² ₂3μπ		20 Fosken - Shelt Feat	5 0 Fasken 1 Sher-Fed 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	☆ , 0 39402 	U Ssker	3	3
	Marathon *18	Morathon	33 BO 17	(Fasken Lard) 0486483	D.Fasken HØP	"Ross-Fed"		}	L L
	# 20 5 9 Mi,i.	04827	(Depco) Shell-Fod		010567 	Javid Cosken			
	€ 12 198040.1 1 € 198040.1 1 € 198040.1 1	"Moc.Fed"	39.80 (A) (7 M.).	Citation C HBP 'Shell- 373037	- Figgs	Poss - Fed Marrow Disc. 19 Mil.			
in:t"	stere ha madul Sasin ohn	US .	U.S	Fed D.Fare	0.3 0IA4-7-35	U		U	s
***	24 0500 #10 wp +24Mil.#10 Marathon	Marathon Briz	39日C ElandEner Santa Fe 4224 5 5 : 15 : 56 Ener. Ener Ener 日日日 14:57 34545 日日日 15:15 34545 日日日 15:15 15	(3 17005) Citation OE,G	twoil the	D Fasken Graham Roy. HBP	D.Fasken Fosken (10,000 Skolarfrod (FoskenLa)	David Faske Na Nat Gas to id HBP	1,270
11 7389 +45Mil. SNIL	BHL 05518 011 P670 P215	5183 Bone rigts- FEd. 12 05600 (Morr. Disc.) [Yates	39 81 22 42 28 6 42 31 1 7 Santa Fa	HBP 02,3037~	15Mil. 115bis 0485483		2 3Mil. 18P	3:0567	
NIT	¥ ² 5.1, 3 8Mil	(Mocr. Disc.) Tates 5 [For. Disc.] Heter (Pis) Opict 5.2 Mil.) Biore Florts Fed "/2" 2000	39 81 2 42 28 5 42 31 1 7 5 6 16 4 Sonto Fe Sonta Fe Ener 7 Ener Ener 31 7 563 Pontus 34583		"Cucham	D.Fasken 2- Marathen	Fosken Ld. H8P	Fosken Ld.	v Mobil Fea Unit
	光: 10.4 Min ● 25 	Bone Flats Fed "12" 20 - 2	54 Con. 160 dc 151 12	L 8	Sheil-Fed."	222534 EIRC 1/4	0247971	L	Fea Unit TDI0170 0/A 5-22-66
PER.)	Pise Marathan Marainan	Pet.era Marathan	35 And 3 Pon rice St Cotton	Marathan HBU o ⁴	Dur ngm Inc. 11-1-63 3+467 A eises A Grace Lismit Hills	Germany and 14		10130	
	Nr Indian 0 05551 Ne Indian Basin 078	91677 Marathon 3555		Ressler, et al	SMIL HIIIS	(D. Kusker) OER OER Skelly-Fed.	Easken (19. Fusk	1 26.8 27.1
	. 22	Bonn Flats	Santa Fe Ener 5 19 66	Riggs TD:456	0x000 1/2 KGS	1 Skevy-Fi Briemin Str. Dive (wo) 2.3 mil	*	(0,	275)
	0 5	91542 THE MILL 3HE	11 033 131 2 51076 HBU			(Marathan		427: 24276 _ 1	
then Style		Santa Fe Ener. * Page * 4 Mil. +2 5Mil 76919	Yates Eland Ener. Peterali 5 19 65	Marathan Nearburg Maraia) Marathan	Mara thometal HBU 064243	°1	7	ູະກາ	00
D BHU D BHU D BHU D BHU D BHU D D	Baczc Santa Fe Shuder 	+2 5Mil 76919		HBU 054843	S (Maralo 147	David Fask all sea	m, to 10, 800'	717 717 718 109 11 109 11	<u>.</u>
	am Buel (Bill Finn)		Al 92 61 Yates Pet Pal	Fankin Boule	HBU HBU F: 7417 I/06-6063	"Indian Hills L	Int" Trhon	3121 927 71 4309 374254 71 4349 34258 71 4349 34258 71 Chaife 2907	
	8m (2) Duel (1) [5mm) (5 P 272 5 10 for 10	12			57437 0G-6063 Store 3.63 74846 1	Graham 3.3 Mil	Adialo, Ar HEU	 +	P
101 2 1	·** ··································	13 Santa Fe Ener, Boaring Sprs Fed. Solari	HB (0/A5+04)	Marathen, elo	(Marathon) Indian Hills Unit Com A TO 8070 (0/A 2-19-67)	Harathon Maralo 4	then then	43.49 9142.98 71 Chaife	Die Prop.
62 P (wa)	1.8 Santa fe Snuder	- (50107) 	2512 (1997) (199	15 054243	2237 7274523 AT				
Gus Com"	Fed. BHL (WO)	"Rooring Springs -Fea			100) 6 34 Mil.	Conten Or, Ren 2	Rou Va Hou of sosa	43.87 9743.36 /ðr	42.83 1 42.33
	Moaring Springal 5. P354	U S.		t				24, 0	S.
	Margthon Margthon 0304629 -01 Banta ke Snyder34 202 -01 Banta ke Snyder34 Santa Frishuder 10 634 3400 20 Dad Aree 23	Marathon H 8 P	An An Antone (Phillips) McGre Morning McGre Mou Her	Marat	thon (Marcti	n for	1.04 2141.57 1 Yortes	Pet etai
tani Co. 193	Bad Axe 23' 10 b3 34 00 20 Fed Com.	0181628	E-10163 053246 003245 63245	0643' 7795 512251 at	9) 0 ¹³ 26 99 99 73 99 97 19 IARATHON	(Morol BHL 07250		895 151 151	
·- ه	FeedCom. SeedCo	anto al anto da Africa	Meninos (Gali 162 Sel	M	ARATHON	OPER.	9669 3'38.72 44	Santa Fe Snyder	Yates Peix 9-1-93
194007				Rocky Hills-2	INDIAN HILLS-	UNIT 2			76944 30
15 A	Indian Beaun Marathon Fed. H 3 P	Sinclair Marathan Santa Fe Sinclair Marathan Entr Marathan (H 8 P 16919 Fid 10945) - 0056:2 52.09	HBP McGee Indian red		1 1 1 1 1 1 1 1	(Longe)		53 5T-42.70 32	AR Tortes
(Lowe)	Marathun	709650 -005612 52.09 0/41.4.65	063246 BHL 7 (0/4)6-10+11 32.21 \$42.56 (0/20-60)11-43-41/2	swo swo≡/naian Hi		(Low2) Ind Hills (U.Peng Ofc.) (25.1 Mill)	1 57 54 7 3768 5	(Lexy', 1 43/	Pon am Fea. Sant
fed."			053248 BHL 2 HILL AND	Swotindian Hi ⇒ ⊅ ⁶ U.S	18 77A		· · ·	Serte Fe En 2+01 3-1-97 88092	0'Z ALZ 1:24
		y 3 TOTESO SantafeEner	1244 A 4349 14539 \$145.81 5	42.20 13 41.75 2	14. 37 11		LS. L.C.	DO 10	U.S 500
	Marathan	(G & Chase)	Devon Ener Devon Ener	Shater Marathor	\sim 137 $\#$	Marathan P	17 99 Harris	Santa Fu En.etal 41.007 41.07 41.07 41.00	89143 1-25
E	Cresti O ^{lic}	A LITT APP and	113 " A 4 3 4 3 4 3 4 4 4 4 4 4 4 4 4 4 4 4 4	12.17 1.000		06293	106233	AI SO (Angdar)	<u>'275</u>
	CT Mil	N. 16101	Mulls - 4 51.12Mull. F22560 51.12Mull. 0/41657 1	* =	/	*′°			ardue Farms.± Sylyn Joyce
	26	MICLAND 25	4.40 BT4235 B 43.26 AT43 63 3	2.5 500 200	43.83 3 44345	+ 28		Yates Pet 2	7
	Marathan Ingian Basin	(Marathen)	Mar no Crk. to in Street	BHL 3.7 Mil + P57	·• / (•••).	1	M. uthon	Fed Com (Pondum) (Pondum)	' Yotes Pet, ct 76944
	3.c ₩	(Marathon) AQTF 3∃M⊒	AODA - tai 74 OTAZIE ISTAZIS - 201.	+ P57 + 05 1 taz 59 12t	د در ب <mark>ی اور در</mark> ارجانهای اور در در ا	,9 ≉ ★	0.048Z	Yotes Pet PanAm Porque (Porque Gas Uni USA) : ALZ (100380) (1) (100360) (1) (100360) (1) (100360) (1)	
,	Indian Basin	navan Basin I K	S (Marma Cch	adian Hills	Scout Hedfern	Indian Hili	is Unit	Enericheli	U.S
etai)	L) (Jehn H Trigg)	J S .	19.52	U S	/0330448	U S 1212 - 4142 - 5121	17 49 214201	1	
	Marathon	Kerr McGee E aird	Sevon Ener /2 al Oevon 1932-46 / Al Stranger	A Mornithon 2 - Indianela sun 12 	Jania Fe Ener. 141 Marathon, etal V 942 93 Maruthon 27 165	Marathan (MwPet 11) 07250		P10	
I	26343	E 0110		al se Maria smir	Maritikan Pies	. 1 .	98 <u>-</u>	2	Chaine!!!

YATES PETROLEUM CORPORATION ARCHIMEDES SWD #1 PROPOSED SALT WATER DISPOSAL WELL SEC 18-T21S-R24E 1650'FSL & 1980' FEL EDDY COUNTY. NEW MEXICO

ATTACHMENT B



Petrolite Corporation P.O. Box 60180 Midland, TX 79711-0180

Lab Phone (915) 563-7941 Lab Fax (915) 563-7942

Water Analysis Report from Petrolite Corporation

YATES PETROLEUM

HILLVIEW AHE WELL #5 ARTESIA, NEW MEXICO

Summary		Analysis: 15311					
Anion/Cation Ratio	1.00	Anions	mg/L	meq/L	Cations	mg/L	meq/L
		Chloride	2,300	64.9	Sodium	2,084	90.7
TDS (mg/L or g/m ³)	7,914	Bicarbonate	817	13.4	Magnesium	110	9.05
Density (g/cm³ or tonne/m³)	1.006	Carbonate	0.00	0.00	Calcium	457	22.8
		Sulfate	2,136	44.5	Strontium	10,0	0.23
Chemical Treatment		Phosphate	N/A	N/A	Barium	0.05	0.00
Sample Condition		Borate	N/A	N/A	Iron.	0.0 5	0.00
		Silicate	N/A	N/A	Potassium	N/A	N/A
Sampling Date	7/1/96				Aluminum	N/A	N/A
Sampled by		Hydrogen Sulfide			Chromium	N/A	N/A
Submitted by	ANDY MILLER				Copper	N/A	N/A
		pH at time of sampling	3	6.90	Lead	N/A	N/A
Analysis Date	7/10/96	pH at time of analysis			Manganese	N/A	N/A
Sample analysis number	15311	pH used in Calculation	าร	6.90	Nickel	N/A	N/A

	Predictions of Saturation Index and Amount of Scale in Ib/1000bbl											
Press (psi		Temp.	Calo CaC		Gyps CaSO4	1	Anhy CaS	4	Cele SrS		Bar - BaS	
002	Total	°F	Index	Amounti	indax	Amount	Index	Ameunt	index	Amount	Index	Amount
1.18	0.00	80	0.45	50.3	-0.23		-0.30		0.20		0.65	0.02
1.54	0.00	100	0.57	64.4	-0.24		-0.24	,	-0.20		0.49	0.02
1.94	0.00	120	0.70	79.4	-0.24	1	-0.16	İ	-0.13		0.37	0.02
2.35	0.00	140	0.84	95.0	-0.23		-0.06		-0.15	1	0.27	0.01

Note 1: When assessing the seventy of the scale problem, both the saturation index (Si) and amount of scale must be considered. Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the five scales.

Note 3: CO2 Pressure is absolute pressure. Total Pressure is gauge pressure.

Water to be disposed



MILLER CHEMICALS, INC.

Post Office Box 298 Artesia, N.M. 88211-0298 (505) 746-1919 Artesia Office (505) 393-2893 Hobbs Office

100 mil	175	(505)	746-1918 Fax	\sim
APP/ X.	1.20	11, 40 #1	1. 0050	SIL
Elin	APANTO	DES PA	746-1918 Fax	000
14450	n Conno	94		

WATER ANALYSIS REPORT

Lease Well	Y : YATES PETROLEUM ARTESIA, NM MARATHON "MW" #81 Pt. : WELLHEAD	Date Date Sampled Analysis No.	: 8/20/01				
	ANALYSIS	. mg/L		* meq/L			
1.	рН 7.0						
	H2S 0						
	Specific Gravity 1.000)					
	Total Dissolved Solids	14629.2					
	Suspended Solids	NR	NR				
	Dissolved Oxygen	NR	NR				
	Dissolved CO2	NR					
	Oil In Water	NR					
	Phenolphthalein Alkalinity						
10.	Methyl Orange Alkalinity (C	CaCO3)					
	Bicarbonate	HCO3 354.0	HCO3	5.8			
	Chloride	Cl 8520.0		240.3			
	Sulfate	SO4 350.0		7.3			
	Calcium	Ca 800.0		39.9			
	Magnesium	Mg 340.6	Mg	28.0			
16.	(Na 4264.4	Na	185.5			
	Iron	Fe 0.3					
	Barium	Ba NR					
	Strontium	Sr NR					
20.	Total Hardness (CaCO3)	3400.0					

PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter	Compound	Equiv wt	X meq/L	= mg/L				
++ ++								
40 *Ca < *HCO3 6	Ca(HCO3)2	81.0	5.8	470				
/>	CaSO4	68.1	7.3	496				
28 *Mg> *SO4 7	CaCl2	55.5	26.8	1489				
</td <td>Mg (HCO3)2</td> <td>73.2</td> <td></td> <td></td>	Mg (HCO3)2	73.2						
185 *Na> *Cl 240	MgSO4	60.2						
++ ++	MgCl2	47.6	28.0	1334				
Saturation Values Dist. Water 20 C	NaHCO3	84.0						
CaCO3 13 mg/L	Na2SO4	71.0						
CaSO4 * 2H2O 2090 mg/L	NaCl	58.4	185.5	10840				
BaSO4 2.4 mg/L								

REMARKS: 0 % KCL PRESENT



MILLER CHEMICALS, INC.

÷

Post Office Box 298 Artesia, N.M. 88211-0298 (505) 746-1919 Artesia Office (505) 393-2893 Hobbs Office (505) 746-1918 Fax

WATER ANALYSIS REPORT

Address Lease Well	y : YATES PETR(s : ARTESIA, NN : ZINGARO "A) : ∄1 Pt. : WELLHEAD	4	Date Date Sampled Analysis No.	: 2/21/01		
	ANALYSIS		n.g∕L		* meq/L	
	рH	7.1				
	H2S	90				
	Specific Gravity					
	Total Dissolved Sol	17622.9				
	Suspended Solids	NR				
	Dissolved Oxygen	NR				
-	Dissolved CO2	NR				
-	Oil In Water		NR			
	Phenolphthalein Alkalinity (CaCO3)					
	Methyl Orange Alka			10.0		
	Bicarbonate		659.0			
	Chloride		8946.0	-		
	Sulfate		1750.0			
	Calcium		680.0			
	Magnesium		583.4	-		
	Sodium (calculated)		5004.3	Na	217.7	
	Iron		0.3			
	Barium	Ba				
	Strontium	Sr				
20.	Total Hardness (Ca	203)	4100.0			

PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter	Compound	Equiv wt	X meq/L	= mg/L					
++ ++									
34 *Ca < *HCO3 11	Ca(HCC3)2	81.0	10.8	875					
>	CaSC4	68.1	23.1	1574					
48 *Mg> *SC4 36	CaCl2	55.5							
</td <td>Mg(HCO3)2</td> <td>73.2</td> <td></td> <td></td>	Mg(HCO3)2	73.2							
218 *Na> *Cl 252;	MgSO4	60.2	13.3	301					
÷====+++++++++++++++++++++++++++++++++	MgC12	47.б	34.7	1651					
Saturation Values Dist. Water 20 C	NaHCO3	84.0							
CaCO3 13 mg/L	Na2SO4	71.0							
CaSO4 * 2H20 2090 mg/L	MaCl	58.4	217.7	12721					
BaSC4 2.4 mg/L									

REMARKS :

ATTACHMENT "E"

Attachment F

C-108 Application for Authorization to Inject Yates Petroleum Corporation Archimedes SWD No. 1 Section 18, T-21S-R24E Eddy County, New Mexico

Available engineering and geologic data have been examined and no evidence of open faults of hydrologic connection between the disposal zone and any underground sources of drinking water has been found.

Hung

John Humphrey Geologist Yates Petroleum Corporation

9/3/02

Date

MARTIN YATES, III 1912 - 1985 FRANK W, YATES 1936 - 1986



105 SOUTH FOURTH STREET ARTESIA, NEW MEXICO 88210-2118 TELEPHONE (505) 748-1471 S. P. YATES CHAIRMAN OF THE BOARD JOHN A. YATES PRESIDENT PEYTON YATES EXECUTIVE VICE PRESIDENT RANDY G. PATTERSON SECRETARY DENNIS G. KINSEY TREASURER

September 3, 2002

Artesia Daily Press P.O. Box 190 Artesia, New Mexico 88211-0190

Gentlemen:

Yates Petroleum Corporation desires to place a public notice in your newspaper for one day. The notice is enclosed.

Please place this notice in your paper on Friday, September 6, 2002, (or as soon as possible thereafter) and forward a copy of it along with your billing as soon as possible to:

Yates Petroleum Corporation 105 South Forth Street Artesia, NM 88210 Attn: Sam Brandon

If you have any questions, please contact me at 748-4281. Thank you for your cooperation in this matter.

Sincerely,

Sam Brandon Operations Engineer

Enclosure

Legal Notice

Yates Petroleum Corporation, 105 South Fourth Street, Artesia, NM 88210, has filed form C-108 (Application for Authorization to Inject) with the New Mexico Oil Conservation Division seeking administrative approval for an injection well. The proposed well, the "Archimedes SWD #1" located 1650' FSL & 1980' FEL of Section 18, Township 21 South, Range 24 East of Eddy County, New Mexico, will be used for salt water disposal. Disposal waters from the Canyon will be re-injected into the Canyon at a depth of approximately 8032'-8150' with a maximum pressure of 2000 psi and a maximum rate of 25,000 BWPD.

All interested parties opposing the aforementioned must file objections or requests for a hearing with the Oil Conservation Division, 2040 S. Pacheco Street, Santa Fe, NM 87505-5472, within 15 days. Additional information can be obtained by contacting Sam Brandon at (505) 748-4281.

Affidavit of Publication					
STATE OF NEW MEXICO					
County of Eddy:					
Gary D. Scott being duly					
sworn,says: That he is the Publisher of The					
Artesia Daily Press, a daily newspaper of general					
circulation, published in English at Artesia, said county					
and county and state, and that the here to attached					
Legal Notice					
was published in a regular and entire issue of the said					
Artesia Daily Press,a daily newspaper duly qualified					
for that purpose within the meaning of Chapter 167 of					
the 1937 Session Laws of the state of New Mexico for					
1 consecutive weeks/days on the same					
day as follows:					
First Publication September 4 2002					
Second Publication					
Third Publication					
Fourth Publication					
Jan Statt					
Subscribed and sworn to before me this					
4th Saday of September 2002					
Break Bringbans					
Notary Public, Eddy County, New Mexico					
My Commission expires September 23, 2003					

Copy of Publication:

LEGAL NOTICE

Yates Petroleum Corporation 105 South
Corporation, 105 South Fourth Street, Artesia, NM
88210, has filed form C-108 (Application for
Authorization to Inject) with the New Mexico Oil
Conservation Division
seeking administrative approval for an injection
well. The proposed well, the "Archimedes SWD #1"
located 1650' FSL & 1980'
Township 21 South, Range
24 East of Eddy County, New Mexico, will be used for
salt water disposal. Disposal waters from the Canyon will
be re-injected into the
approximately 8032'-8150'
with a maximum pressure of 2000 psi and a maximum
rate of 25,000 BWPD. All interested parites
opposing the aforementioned must file
objections or requests for a
hearing with the OII Conservation Division, 2040
S. Pacheco Street, Santa Fe, NM 87505-5472, within
15 days. Additional
by contacting Sam Brandon
at (505) 748-4281. Published in the Artesia
Daily Press, Artesia, N.M. September 4, 2002.
Legal 17848

ATTACHMENT G

