STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

RECEIVED

OCT 13 '89

O. C. D.
ARTESIA, OFFICE

ARREY CARRUTHERS
GOVERNOR

October 12, 1989

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

Arch Petroleum Inc.
Penthouse II A
Fort Worth Club Tower
Fort Worth, Texas 76102

Greetings
Mr. Catanach
from J. Robinson

Attention: Mr. Jim B. Paschall

Re: Artesia Waterflood Project No. 3

Dear Jim:

Enclosed with this letter please find a copy of Division Order No. WFX-588, which authorizes you to utilize the Resler Yates State Well Nos. 55, 370, 379, and 380 for injection within the above referenced waterflood project. Please note that the order directs you to perform remedial work on Well No. 55 and further directs you to re-enter and re-plug the Resler Yates State Well No. 48. In addition, I have also required that you demonstrate that the Resler Yates Well No. 61, a producing well, is adequately constructed so as to protect fresh water and confine injected fluid to the injection zone.

There are several other wells within the area of review, either producing or plugged and abandoned, that I still have serious concerns about. These wells are shown on page 2 of this letter. From the data submitted in the application, it is very difficult to determine if these wells are adequately constructed. I have not required that remedial work be performed on these wells at this time due to their location relative to the four injection wells, and due to the fact that no waterflow problems have been encountered in the flood area. Please be advised however, that any expansion of injection operations to the north or northeast, or any subsequent waterflow problems encountered, will likely be cause for remedial work on these wells to be performed. If any further information is obtained concerning the construction of these wells, please forward it to myself for evaluation.

As with other waterflood projects, the Division will maintain a strong field presence and will closely monitor operations on the Artesia Project, and we will expect that any subsequent problems be corrected in a timely and acceptable manner.

Sincerely,

David Catanach

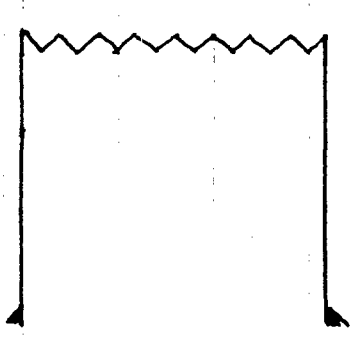
P-29-18-28
Arch Petr. Inc.

Resler Yates St. 48 Area of Review Re-entry WFX 588

Repair Work

Drlg. 7 3/4 Bit
100% Circ.
T. cement @ 36'
B. " @ 46' 10' plug
Lost circ.

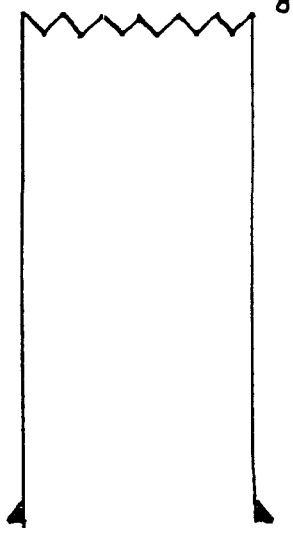
Tg. @ 267' wooden plug?
D.O. 275'



Started out of hole
d 10" fell over to one
side. Operator decided
to plug well.
P+A as follows
Top of Qn. 1545'
1. 100' @ 1595' Tag
2. 100' @ 896' 8 5/8 Shoe Tag
3. 100' @ 558' 8 5/8 stub Tag
4. 100' @ 345' 10" shoe Tag
5. 90' surf. 10" stub
gel between plugs

335' Lost Circ.

Tagged 8 5/8 508'
continued to
2023' Tg. Cement 10' Plug
2037 T.D.



Copies to:
D. Catanach
P. Childs

T.D. 2037'

NEW MEXICO OIL CONSERVATION COMMISSION
FIELD TRIP REPORT

Name Johnny Robinson Date 1-31-90 Miles 129 District II

Time of Departure 8:00 am Time of Return 5:30 pm Car No. 10276

In the space below indicate the purpose of the trip and the duties performed, listing wells or leases visited and any action taken.

Signature _____

INSPECTION	CLASSIFICATION	FACILITY	HOURS	QUARTER HOURS	
T	U	I	2		1 Well G-16-17-30 Devon Energy Corp, Etz St Ut Tr 8 #1. Operator is rigging up. Will finish tomorrow.
R	U	I	4	2	1 Well P-29-18-28 Arch Petr Corp, State 647 #48. Operator WIH with 7 3/4 bit. Drilled out 10' cement plug at 36'. Tagged up at 267'. Tried to drill out for 20 minutes with no luck. WIH with magnet and failed to retrieve fish. Will go in with bit tomorrow.
R	U	I	3		1 Well A-33-18-28 DeKalb Energy Corp, State 647 #205. Operator repaired cracked head. Loaded backside and ran MIT. Casing held 250 PSI for 15 minutes. OK.

Mileage		Per Diem		Hours	
UIC	129	UIC	6.00	UIC	9 1/2
RFA		RFA		RFA	
Other		Other		Other	

TYPE INSPECTION PERFORMED

H = Housekeeping
P = Plugging
C = Plugging Cleanup
T = Well Test
R = Repair/Workover
F = Waterflow
M = Mishap or Spill
W = Water Contamination
O = Other

INSPECTION CLASSIFICATION

U = Underground Injection Control - Any inspection of or related to injection project, facility, or well or resulting from injection into any well. (SWD, Indry injection and production wells, water flows or pressure tests, surface injection equipment, plugging, etc.)
R = Inspections relating to Reclamation Fund Activity
O = Other - Inspections not related to Injection or The Reclamation Fund

E = Indicates some form of enforcement action taken in the field (show immediately below the letter U, R or O)

NATURE OF SPECIFIC WELL OR FACILITY INSPECTED

D = Drilling
P = Production
I = Injection
C = Combined prod. inj. operations
S = SWD
U = Underground Storage
G = General Operation
F = Facility or location
H = Heating
O = Other

NEW MEXICO OIL CONSERVATION COMMISSION
FIELD TRIP REPORT

Name Johnny Robinson Date 2-1-90 Miles 159 District II

Time of Departure 7:30 am Time of Return 4:30 pm Car No. 10276

In the space below indicate the purpose of the trip and the duties performed, listing wells or leases visited and any action taken.

Signature _____

INSPECTION	CLASSIFICATION	FACILITY	HOURS	QUARTER HOURS	
T	U	I	2		1 Well G-16-17-30 Devon Energy Corp, Etz St Ut Tr8 #1. Witnessed tracer and temperature survey. Temp survey showed possible channel from 2794 down to 2803'.
R	U	I	1		1 Well O-10-17-31 Harcorn Oil Co., H.E. West B #20. WIH with CIBP and set at 3800;. WIH with tubing and packer, circulated packer fluid, set packer and ran MIT on casing.
R	U	I	1		1 Well K-10-17-31 Socorro Petr Co, H.E. West B #14. Circulated packer fluid and ran MIT on casing. Held 360 PSI for 15 minutes.
R	U	C	4		1 Well P-29-18-28 Arch Petr Corp, State 647 #48. WIH with 7 3/4" mill to 267 ft and drilled out 8 ft of wood post. Went on down to 2037 ft. Will run casing and cement tomorrow.

Mileage		Per Diem		Hours	
UIC	159	UIC	6.00	UIC	8
RFA		RFA		RFA	
Other		Other		Other	

TYPE INSPECTION PERFORMED

H = Housekeeping
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P = Production
I = Injection
C = Combined prod. inj. operations
S = SWD
U = Underground Storage
G = General Operation
F = Facility or location
H = Heating
O = Other

FIELD TRIP REPORT

Name Johnny Robinson Date 2-2-90 Miles 120 District II

Time of Departure 8:00 am Time of Return 3:00 pm Car No. 10276

In the space below indicate the purpose of the trip and the duties performed, listing wells or leases visited and any action taken.

Signature _____

TYPE INSPECTION PERFORMED	CLASSIFICATION	FACILITY	HOURS	QUARTER HOURS	
P	U	C	5		1 Well P-29-18-28 Arch Petr Co, State 647 A #48. Operator tried to establish circulation and couldn't. Came up to 335 ft. and pumped lost circulation material. Came out of hole with tubing to run casing in and noticed 10" at 41 ft. has fell over to one side. Operator decided to plug well. WIH with tubing and spotted a 50 Sx plug at 1595 ft. Will tag tomorrow.
T	U	I	1		1 Well K-16-17-30 Devon Energy, Etz St Ut Tr 3 #7. Witnessed temp. survey. There was no channeling upward and a slight channeling downward.

Mileage		Per Diem		Hours	
UIC	120	UIC	6.00	UIC	6
RFA		RFA		RFA	
Other		Other		Other	

TYPE INSPECTION PERFORMED

H = Housekeeping
P = Plugging
C = Plugging Cleanup
T = Well Test
R = Repair/Workover
F = Waterflow
M = Mishap or Spill
W = Water Contamination
O = Other

INSPECTION CLASSIFICATION

U = Underground Injection Control - Any inspection of or related to injection project, facility, or well or resulting from injection into any well. (SWD, 2ndry injection and production wells, water flows or pressure tests, surface injection equipment, plugging, etc.)
R = Inspections relating to Reclamation Fund Activity
O = Other - Inspections not related to injection or The Reclamation Fund

E = Indicates some form of enforcement action taken in the field (show immediately below the letter U, R or O)

NATURE OF SPECIFIC WELL OR FACILITY INSPECTED

D = Drilling
P = Production
I = Injection
C = Combined prod. inj. operations
S = SWD
U = Underground Storage
G = General Operation
F = Facility or location
M = Meeting
O = Other

NEW MEXICO OIL CONSERVATION COMMISSION

FIELD TRIP REPORT

Name Johnny Robinson Date 2-3-90 Miles 160 District II

Time of Departure 7:00 am Time of Return 4:00 pm Car No. 10276

In the space below indicate the purpose of the trip and the duties performed, listing wells or leases visited and any action taken.

Signature _____

INSPECTION	CLASSIFICATION	FACILITY	HOURS	QUARTER HOURS	
P	U	C	6	2	1 Well P-29-18-28 Arch Petr Corp, State 647 A #48. WIH with tubing and tagged TOC at 1490'. Pulled tubing to 896' and spotted 50 Sx of Class C with 4% Cal.Cl. WOC 2 hours and tagged cement at 740 ft. Spotted 60 Sx of Class C cement with 4% Cal. Cl at 558'. WOC tagged 508' spotted 700 gal. flo check, Al. Cl. water, 25 Sx of C cement 1/4 lb flocele tagged cement at 499'.
T	U	I	1		1 Well F-18-17-28 Blue Sky Prod Corp, Hastie #8. Witnessed MIT. Well held 280 PSI for 8 minutes and lost pressrue. Pumped up to 500 PSI unable to establish any rate. Casing held 80 PSI. Will put on monitor list.
P	U	I		2	1 Well E-30-17-28 Blue Sky Prod Corp, Sunray State #1. Casing is full of cement. No MIT necessary at this time.

Mileage		Per Diem		Hours	
UIC	160	UIC	6.00	UIC	8
RFA		RFA		RFA	
Other		Other		Other	

TYPE INSPECTION PERFORMED

H = Housekeeping
P = Plugging
C = Plugging Cleanup
T = Well Test
R = Repair/Workover
F = Waterflow
M = Mishap or Spill
W = Water Contamination
O = Other

INSPECTION CLASSIFICATION

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R = Inspections relating to Reclamation Fund Activity
O = Other - Inspections not related to Injection or The Reclamation Fund

E = Indicate some form of enforcement action taken in the field (show immediately below the letter U, R or O)

NATURE OF SPECIFIC WELL OR FACILITY INSPECTED

D = Drilling
P = Production
I = Injection
C = Combined prod. inj. operations
S = SWD
U = Underground Storage
G = General Operation
F = Facility or location
H = Heating
O = Other

NEW MEXICO OIL CONSERVATION COMMISSION
FIELD TRIP REPORT

Name Johnny Robinson Date 2-4-90 Miles 160 District II

Time of Departure 9:00 am Time of Return 3:00 pm Car No. 10276

In the space below indicate the purpose of the trip and the duties performed, listing wells or leases visited and any action taken.

Signature _____

CLASSIFICATION	FACILITY	HOURS	QUARTER HOURS	
P	U	L	6	

1 Well 9-29-18-28 Arch Petr Corp, State 647 A #48.
WIH with tubing and tagged at 499'. Spotted 20 Sx of Class C cement. Came up to 334' pumped 60 Sx Class C with 4% Cal.Cl + flo seal. WOC 2 hours and tagged at 332'. Pumped 100 gal flo check and 50 Sx Class C with 4% Cal.C. WOC 2 hours and tagged at 227'. Came up to 90' pumped 5 Sx paper 250 gal of flowcheck & 100 Sx of Class C with 4% Cal.Cl WOC 2 hours and tag. Will top off with cement.

Mileage		Per Diem		Hours	
UIC	160	UIC	6.00	UIC	6
RFA		RFA		RFA	
Other		Other		Other	

TYPE INSPECTION PERFORMED
H = Housekeeping
P = Plugging
C = Plugging Cleanup
T = Well Test
R = Repair/Workover
F = Waterflow
N = Mishap or Spill
W = Water Contamination
O = Other

INSPECTION CLASSIFICATION
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R = Inspections relating to Reclamation Fund Activity
O = Other - Inspections not related to injection or The Reclamation Fund
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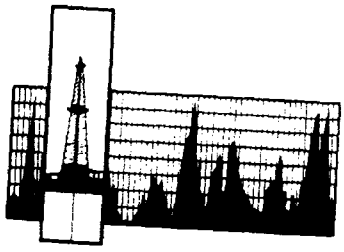
NATURE OF SPECIFIC WELL OR FACILITY INSPECTED
D = Drilling
P = Production
I = Injection
C = Combined prod. inj. operations
S = SWD
U = Underground Storage
G = General Operation
F = Facility or location
H = Hunting
O = Other

DWS 1



Darrell W. Smith Co.

Box 1105 • Midland, Texas
Box 455 • Hobbs, New Mexico

THE FOLLOWING DISTRIBUTION HAS BEEN MADE ON CORE ANALYSIS FINAL REPORTS OF THE:

GRARIDGE OIL CORPORATION

WELL NO. 332 RESSLER - YATES

Copies:

(2) Graridge Oil Corporation
210 Carper Building
Artesia, New Mexico

(4) Graridge Oil Corporation
Box 752
Breckenridge, Texas

Date Received JUL 25 1962			
ROUTE TO		ROUTE TO	
	DATE CHECKED		DATE CHECKED
LC		RLE	
OHR ✓	7-27	CRA	
TAF ✓	7/26	JLMc	
FFD		BGE ✓	7-30
WFB		JAW	
BGH ✓	7/27	JWC	
CWS			
Mail To:		FILE:	
Graham		JR	

TREAT-RITE WATER LABORATORIES

INCORPORATED

BOX 548 - MONAHANS, TEXAS

RESULT OF WATER ANALYSES

LABORATORY NO. M9586

TO: Mr. J. C. Chapman

P. O. Box 1147, Artesia, New Mexico

SAMPLE RECEIVED 9-3-58

RESULTS REPORTED 9-6-58

COMPANY The Ibex Company LEASE M. R. & Y.

FIELD OR POOL Artesia

SECTION _____ BLOCK _____ SURVEY _____ COUNTY Eddy STATE NM

SOURCE OF SAMPLE, AND DATE TAKEN:

NO. 1 Raw fresh water - taken from water well west of plant. 9-3-58

NO. 2 Raw salt water - taken from water supply well line. 9-3-58

NO. 3 Filtered water - taken from filter effluent. 9-3-58

NO. 4 Treated water - taken from injection pump suction. 9-3-58

REMARKS: _____

CHEMICAL AND PHYSICAL PROPERTIES

	NO. 1	NO. 2	NO. 3	NO. 4
SPECIFIC GRAVITY AT 60°F.	1.0018	1.0346	1.0341	1.0283
PH WHEN SAMPLED	7.3	6.6	6.6	6.7
PH WHEN RECEIVED	7.5	6.9	7.1	6.9
TOTAL ALKALINITY AS CACO3	140	752	756	624
SUPERSATURATION AS CACO3	-	52	60	36
UNDERSATURATION AS CACO3	4	—	—	—
TOTAL HARDNESS AS CACO3	715	6,089	5,609	4,765
CALCIUM AS CACO3	451	3,934	3,936	3,209
MAGNESIUM AS CACO3	264	2,155	1,673	1,556
SODIUM AND/OR POTASSIUM				
SULFATE AS SO4	538	4,410	4,003	3,345
CHLORIDE AS NA CL	54	37,319	37,337	30,721
SILICA AS SIO2	11.5	11.6	12.7	12.7
IRON AS FE	0.32	1.5	0.65	0.31
MANGANESE AS MN				
BARIUM AS BA	none	none	none	none
TURBIDITY ELECTRIC	0	9.8	19.3	5.6
COLOR AS PT	1.5	6.2	7.7	8.1
DISSOLVED SOLIDS AT 103 °C.				
TOTAL SOLIDS AT 103 °C.				
TEMPERATURE °F.	71	105	102	89
CARBON DIOXIDE CALCULATED	14.0	376	376	250
DISSOLVED OXYGEN WINKLER	4.2	none	none	none
HYDROGEN SULPHIDE	none	650	600	600
RESIDUAL CHLORINE	none	none	none	none
RESISTIVITY OHMS/cc	890	28.5	26.5	30
~~Oil, as turbidity~~		3.2	15.3	

NOTE: All Results Reported as Parts Per Million. Divide by 17.1 to Convert to Grains Per Gallon

Additional Determinations and Remarks

ILLEGIBLE

Ru

TREAT-RITE WATER LABORATORIES

INCORPORATED

BOX 548 - MONAHANS, TEXAS

RESULT OF WATER ANALYSES

LABORATORY NO. M9586 (page 2)

TO: Mr. J. C. Chapman
P. O. Box 1147, Artesia, N. M.

SAMPLE RECEIVED 9-3-58

RESULTS REPORTED 9-6-58

COMPANY The Ibex Company LEASE M. R. & Y.

FIELD OR POOL Artesia

SECTION _____ BLOCK _____ SURVEY _____ COUNTY Eddy STATE NM

SOURCE OF SAMPLE, AND DATE TAKEN:

NO. 1 Produced water - taken from McNutt State battery. 9-3-58

NO. 2 _____

NO. 3 _____

NO. 4 _____

REMARKS: _____

CHEMICAL AND PHYSICAL PROPERTIES

	NO. 1	NO. 2	NO. 3	NO. 4
SPECIFIC GRAVITY AT 60°F.	1.0673			
PH WHEN SAMPLED	8.5			
PH WHEN RECEIVED	8.7			
TOTAL ALKALINITY AS CACO3	280			
SUPERSATURATION AS CACO3	84			
UNDERSATURATION AS CACO3	—			
TOTAL HARDNESS AS CACO3	14,710			
CALCIUM AS CACO3	6,493			
MAGNESIUM AS CACO3	8,217			
SODIUM AND/OR POTASSIUM				
SULFATE AS SO4	3,688			
CHLORIDE AS NA CL	85,505			
SILICA AS SIO2	6.0			
IRON AS FE	7.2			
MANGANESE AS MN				
BARIUM AS BA	none			
TURBIDITY ELECTRIC	54.8			
COLOR AS PT	7.4			
DISSOLVED SOLIDS AT 103 °C.				
TOTAL SOLIDS AT 103 °C.				
TEMPERATURE °F.	97			
CARBON DIOXIDE CALCULATED	2.0			
DISSOLVED OXYGEN WINKLER	none			
HYDROGEN SULPHIDE	45			
RESIDUAL CHLORINE	none			
RESISTIVITY OHMS/CC	15			

NOTE: All Results Reported as Parts Per Million. Divide by 17.1 to Convert to Grains Per Gallon

Additional Determinations and Remarks

~~Mixutre of waters~~	~~Actual Turbidities, ppm~~	~~Theoretical Compatible Turbidities, ppm~~
~~Raw fresh and raw salt water~~	~~8.4~~	~~4.9~~
~~Injection pump suction water and produced water~~	~~29.9~~	~~30.2~~

~~Letter of recommendation attached.~~

By _____

[redacted] Corporation #355 Resler Yates State

LOCATION: 330' FNL & 990' FEL of section 32-18S-28E, Eddy County, N.M.

ELEVATION: 3545' GR; 3555' DF; 3556' KB

DISCUSSION:

This well was drilled from top to bottom with rotary equipment of Yates Drilling Company, Artesia, New Mexico. Air was utilized as a drilling media from surface to total depth. The 1st Grayburg sand, which is under flood in this area, was encountered at 2018' (+1538). It appears that the flood has not yet effected this well as it did not make any free oil or gas while the pay section was being cored with air. The pay section looked good, however. It was saturated and had very good porosity and permeability. A streak of green shale that has appeared in the pay in many wells in this field was also present in this well. It appears from 2010-14' on the acoustic log.

This well ran normal structurally and commercial pay was encountered in the 1st Grayburg sand.

PERTINENT DEPTHS:

T/Queen Sand	1556 (+1990)
B/Queen Sand	1606 (+1950)
T/1st GB Sand	2018 (+1538)
B/1st GB Sand	2038 (+1518)
Total Depth (Driller)	2064
Total Depth (Welex)	2061

CORES: (Air)
Core #1 - 1994-2008 - rec. 14' (core barrel jammed)
Core #2 - 2008-2034 - full recovery

LOGS: Welex Gamma Ray-Acoustic log from 0-T.D.

REMARKS: The pay section of this well was picked up at the well and analysed by Darrell W. Smith Co. in their laboratory at Hobbs, New Mexico.

TOM HAWLEY

TH:bh
cc: Well Record thru Bob H., Tom F.
Paul Darnell
BJ File

ILLEGIBLE

WELL RECORD

Company The Ilex Company Date This Form Filled In 12-2-57

Lease Name Resler-yates-state Name of Field Artesia Well No. 11

UNIT P 330' FSL-200' FEL-SE/4 Sec-29

County Eddy Survey Block No. Sec. No. 27

(Notice of Intention to Drill) Was Filed in Name of Flynn Welch & yates Completion Date 6-22-1925

CASING SIZE Wt. & Thd.	PUT IN WELL Feet	PULLED OUT Feet	LEFT IN WELL Feet	SACKS CEMENT	HOLE SIZE	EXPECTED RECOVERABLE	REMARKS
10 3/4	235						
8 5/8	860						

Initial Production of Gas—Volume MCF 24 hrs. Pressure lbs. per square inch

Initial Production of Oil: Barrels Gr. Barrels of water with oil

Productive Zones Description Measured from: Elevation [illegible]

Productive Zones	ROD MEASUREMENTS	TUBING MEASUREMENTS
1900 - 1980 Lime	Gas anchor	Mud Anchor
1980 - 90 [illegible]	Pump	Perforations
1990 - 96 [illegible]	Pony rods	Seating Nipple
1996 - 2020 Oil Sand	5/8 rods	jts. tubing
2020 2040 Lime	3/4 rods	Tubing nipple
	Pony rods	Tubing nipple
	Polish rods	Tubing nipple
	Total rods	Total tubing

Top of pay Total Depth 2040

Plug back depths:

Perforated from to No. Shots By Date

Perforated from to No. Shots By Date

Perforated from to No. Shots By Date

Electric Log by: Gamma-Ray Neutron Log by:

EQUIPMENT DATA

Make of Unit Size Serial No. Pulley Size

Make of Engine Size Serial No. Pulley Size

Length of Stroke (max.) No. Strokes per minute Size Working Barrel

Size tubing run No. ft. tubing run Rod size

Packer Type Set

SOURCE OF MATERIAL (Supplier and Invoice No. or Well or Warehouse Transferred From and Material Transfer No.)

Surface Casing Pumping Unit

Oil String Motor

Tubing Flowline

Rods Misc.

TREATMENT DATA

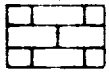
TYPE AND SIZE TREATMENT	INJ. RATE	MAX. PRESS.	SERVICE CO.	DATE
Shot w/120 qts [illegible]				[illegible]

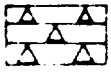
ILLEGIBLE

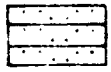
REMARKS: Shows 8" hole [illegible]

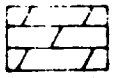
LITHOLOGY

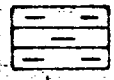

ANHYDRITE


LIMESTONE


CHERT


SANDSTONE


DOLOMITE


SHALE

DESCRIPTION OF CORE

Dol	Dolomite	oo	Oolitic
Ls	Limestone	PPP	Pin Point Porosity
Ss	Sandstone	incls	Inclusions
Ch	Chert	ptgs	Partings
Ahy	Anhydrite	St	Stain
Sh	Shale	NS	No Stain
Sulf	Sulphur	sc	Scattered
Ca	Calcite	stgr	Stringer
Carb	Carbonaceous	sl	Slightly
gil	Gilsonite	Tr	Trace
dolo	Dolomitic	NA	Not Analyzed per Operators Instructions
lmy	Limy		
sdy	Sandy	NR	Not Recovered
ahyd	Anhydritic	NSL	Not Sent to Lab
shy	Shaly	SV	Small Vugs
slty	Silty	V	Vugs
Lam	Laminations	F	Fracture
Sol Cav	Solution Cavity		
Sol Chan	Solution Channels		
Sty	Stylolite		
styo	Stylolitic		
Trip	Tripolitic		
Fs	Fossiliferous		
Gyp	Gypsum		

C	Cemented
H	Horizontal
I	Inclined
M	Multiple
R	Random
V	Vertical

TEXTURE

cg	Coarse Grain	d	Dense
fg	Fine Grain	fx	Fine Cryst.
F G	Frosted Quartz Grains	mx	Medium Cryst.
gran	Granular	cx	Coarse Cryst.

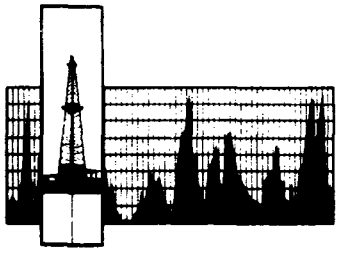
FLUORESCENCE

G	Good
F	Fair
Dl	Dull
Tr	Trace
Sc	Scattered

* Matrix permeability

** Sample not suitable for analysis

DWS-1



Darrell W. Smith Co.

Box 1105 • Midland, Texas
Box 455 • Hobbs, New Mexico

July 24, 1962

Graridge Oil Corporation
Box 752
Breckenridge, Texas

Re: Well No. 332 Ressler-Yates
Artesia Field
Eddy County, New Mexico

Gentlemen:

Attached are the results of core analysis of a section from the Grayburg formation in the above described well. The data are reported in both tabulary and graphical form.

The well was cored from 1,990 feet to 2,025 feet using air and diamond coring equipment. All of the core was recovered and sent to our Artesia laboratory where the intervals selected by a representative of your company were analyzed by Conventional Core Study.

We want to thank you for the opportunity to be of service to your company.

Yours very truly,

DARRELL W. SMITH COMPANY

J. M. Glenn

J. M. Glenn,
Laboratory Manager
Hobbs and Artesia

JMG/dl

DWS-5R

Darrell W. Smith Co.

PHONE OX 4-2511—MIDLAND, TEXAS
PHONE EX 3-6173—HOBBS, N. MEX.

CONVENTIONAL CORE STUDY

Operator Graridge Oil Corporation **Field** Artesia **Formation** Grayburg

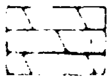
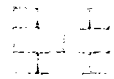
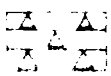
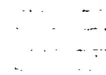
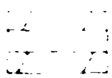
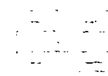
Well No. 332 Ressler-Yates **Location** (Not available)

Depths 1,990 - 2,025 **Date** July 24, 1962 **Lab No.** 601-HA

SAMPLE NO.	REPRESENTATIVE OF FEET	FOOTAGE	PERMEABILITY, MD. HORIZONTAL	PERMEABILITY, MD. VERTICAL	EFFECTIVE POROSITY %	SATURATION % OF PORE SPACE OIL	SATURATION % OF PORE SPACE WATER	DESCRIPTION
			Core No. 1 1990 - 2025 (35Ft.)					
			Recovered 1990 - 2025 (35Ft.)					
	1990 - 94	4.0	-		-	-	-	Vfg gray Ss very dolo ahyd NS NA
1	1994 - 95	1.0	14.		16.8	15.5	53.1	Vfg gray Ss sl dolo ahyd
2	1995 - 96	1.0	75.		21.6	15.7	51.4	Vfg gray Ss sl dolo ahyd
3	1996 - 97	1.0	99.		21.7	21.2	44.2	Vfg gray Ss sl dolo ahyd
4	1997 - 98	1.0	6.3		16.8	17.3	59.0	Vfg gray Ss sl dolo ahyd
5	1998 - 99	1.0	0.09		16.6	19.3	52.7	Vfg gray Ss sl dolo ahyd
6	1999 - 2000	1.0	19.		20.7	16.4	48.2	Vfg gray Ss dolo ahyd
7	2000 - 01	1.0	0.31		12.2	22.1	51.8	Vfg gray Ss very dolo ahyd
	2001 - 02	1.0	-		-	-	-	Dol vgx slty ahyd NS NA
	2002 - 25	23.0	-		-	-	-	Dol d-vfx styo ahyd Sh ptgs NS NA

ILLEGIBLE

LITHOLOGY

	ANHYDRITE		LIMESTONE
	CHERT		SANDSTONE
	DOLOMITE		SHALE

DESCRIPTION OF CORE

Dol	Dolomite	oo	Oolitic
Ls	Limestone	PPP	Pin Point Porosity
Ss	Sandstone	incls	Inclusions
Ch	Chert	ptgs	Partings
Ahy	Anhydrite	St	Stain
Sh	Shale	NS	No Stain
Sulf	Sulphur	sc	Scattered
Ca	Calcite	stgr	Stringer
Carb	Carbonaceous	sl	Slightly
gil	Gilsonite	T	Trace
dol	Dolomitic	NA	Not Analyzed per Operators Instructions
lmy	Limy		
sdy	Sandy	NR	Not Recovered
anyd	Anhydritic	[illegible]	Not Sent [illegible]
shy	Shaly	S	Small Vug
slty	Silty	[illegible]	Vugs
Lam	Laminations	F	Fracture
Sol Cav	Solution Cavity		
Sol Chan	Solution Channels	C	Cemented
Sty	Stylolite	H	Horizontal
styc	Stylolitic	I	Inclined
Trip	Tripolitic	M	Multiple
Fs	Fossiliferous	R	Random
Gyp	Gypsum	V	Vertical

TEXTURE

cg	Coarse Grain	[illegible]	[illegible]
fg	Fine Grain	fx	Fine Cryst
f q	Frosted Quartz Grains	mx	Medium Cryst
gran	Granular	cx	Coarse Cryst

FLUORESCENCE

G	Good
F	Fair
Dl	Dull
Tr	Trace
Sc	Scattered

* Multi [illegible] Bit [illegible]

** Sample [illegible] suitable for analysis

ILLEGIBLE

DWS-2

Darrell W. Smith Co.

CORE FOOTAGE SUMMARY

Operator Graridge Oil Corporation **Lab No.** 601-HA

Well No. 332 Ressler - Yates

Formations Grayburg

Depths 1,990 - 2,025

Field Artesia **County** Eddy **State** New Mexico

Location (Not Available)

CORE INFORMATION

Intervals cored	**from** 1,990 **to** 2,025	
	from _____ **to** _____	
	from _____ **to** _____	
Feet of formation cored	35.0	
Feet of formation recovered	35.0	
Feet of formation cored but not recovered	-0-	
Feet of core received at laboratory for analysis	35.0	35.0
Number of samples selected for analysis	7	
Feet of core represented by selected samples	7	
Feet of shale and/or dense barren material not analyzed	28.0	
Total footage of core accounted for in laboratory analysis	35.0	35.0

LAB. NO. 601-HA

Darrell W. Smith Co.

OPERATOR GRARIDGE OIL CORPORATION WELL NO. 332 RESSLER-YATES

FIELD ARTESIA COUNTY EDDY STATE NEW MEXICO