

RESOURCES AGENCY OF CALIFORNIA  
 DEPARTMENT OF CONSERVATION  
 DIVISION OF OIL, GAS AND GEOTHERMAL RESOURCES  
**REPORT OF PROPERTY AND WELL TRANSFER**

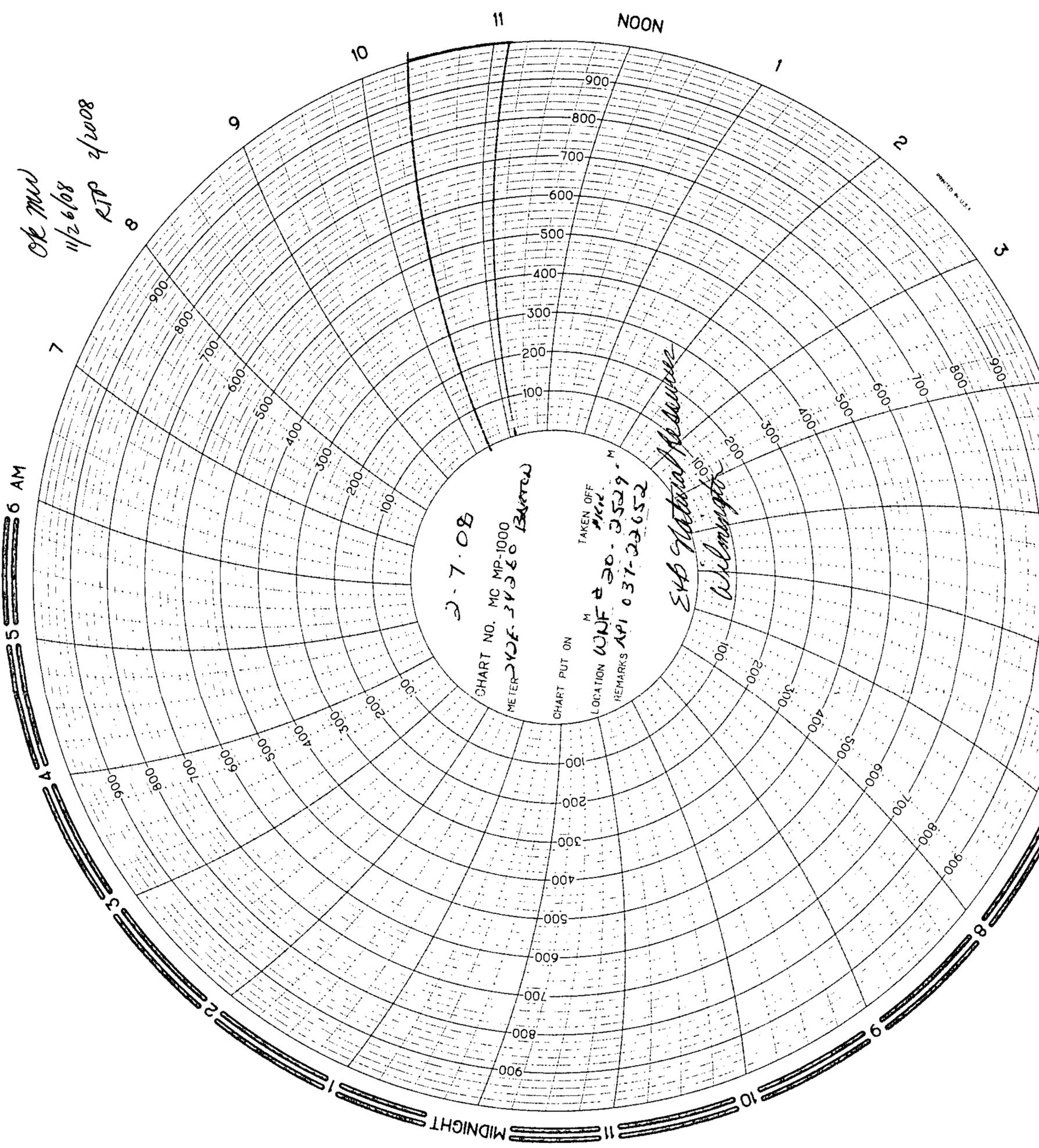
Field or county <b>Wilmington</b>		District - Cypress (D1)	
Former owner <b>Four Teams Oil Production &amp; Exploration Company, Inc.</b>		Opcode: <b>F1535</b>	Date <b>August 12, 2010</b>
<b>SEE ATTACHMENT</b>			
Name and location of well(s)			
See Attachment			
Description of the land upon which the well(s) is (are) located			
Date of transfer, sale, assignment, conveyance, or exchange <b>8/1/2010</b>	New Owner <b>E &amp; B Natural Resources Management Corp.</b>	Operator code <b>E0100</b>	Type of Organization <b>Corporation</b>
	Address <b>1600 Norris Road Bakersfield, CA 93308</b>		Telephone No. <b>(661) 679-1700</b>
Reported by <b>OG30A received 8/11/2010 signed by both parties</b>			
Confirmed by <b>Same as above</b>			
New operator new status (status abbreviation) <b>PA</b>	Request Designation of Agent <b>Jeffrey Blesener</b>		
Old operator new status (status abbreviation) <b>PA</b>	Remarks <b>See Operator File</b>		
Deputy Supervisor <b>Kenneth Carlson</b>		Signature  <b>Chris McCullough, Associate Engineer</b>	

**OPERATOR STATUS ABBREVIATIONS**

	FORM AND RECORD CHECK LIST					
	Form or record	Initials	Date	Form or record	Initials	Date
PA - Producing Active						
NPA - No Potential Active						
PI - Potential Inactive	Form OGD121			Map and Book		
NPI - No Potential Inactive	Well records			Lease Files		
Ab - Abandoned or No More Wells	New well cards			Well Stat		

OGD156 (Modified 1/00)

E & B Natural Resources Mgmt. Corp.



OK MDU  
11/26/08  
RTP 2/2008

2-7-08

CHART NO. MC MP-1000  
METER 34360 (Barred)

CHART PUT ON  
TAKEN OFF  
LOCATION WOLF # 20-2529 M  
REMARKS API 037-23652

Exp Station Pressure  
Wilmington

6 AM

NOON

MIDNIGHT

REC'D NOV 20 2008

# **WELL TRANSFER NOTICE**

On 12-21-98

**XL OPERATING COMPANY**

transferred

all wells in the Wilmington field

(See OGD156 dated December 21, 1998 for complete list)

to

**FOUR TEAMS OIL PROD. & EXPL., INC.**

# **WELL TRANSFER NOTICE**

Effec February 7, 1997

**XTRA ENERGY CORPORATION**  
***TRANSFERRED***

*all wells Wilmington*

*(See Operator File for Complete List)*

**TO**

**XL OPERATING COMPANY**

***SEE OGD156 DATED 02-7-97***

# XTRA ENERGY CORPORATION

2501 CHERRY AVENUE, SUITE 270  
SIGNAL HILL, CALIFORNIA 90806

MAILING ADDRESS: P.O. BOX 9  
LONG BEACH, CA 90801

TELEPHONE (213) 424-8549

December 11, 1984

Herman R. Olilang  
Division of Oil and Gas  
245 West Broadway, Suite 475  
Long Beach, CA 90802

Dear Herman:

Subject: Notice of Records Due: WNF-I #20

The directional survey requested in your subject notice is not available. No surveys were run.

This well was redrilled from the 7" shoe and is not more than 20' away from the old bottom hole location. The total liner length below the shoe is only 130'.

I hope this will straighten out your records. Please let me know if I can be of further assistance.

Very truly yours



JOHN D. CARMICHAEL  
Senior Vice President

JDC:sc

*Pls. File 1/2/85 #20*

LONG BEACH, CA.  
DIV. OF OIL AND GAS

DEC 12 1 54 PM '84

RECEIVED

DIVISION OF OIL AND GAS  
CHECK LIST - RECORDS RECEIVED AND WELL STATUS

Company Xtra Energy Corporation Well No. "WNF-1" 20  
 API No. 037-221099-01 Sec. 19, T. 4S, R. 13W, S.B. B.&M.  
 County Los Angeles Field Wilmington

RECORDS RECEIVED	DATE
Well Summary (Form OG100)	<u>4-12-84</u>
History (Form OG103)	<u>4-12-84</u>
Core Record (Form OG101)	
Directional Survey	
Sidewall Samples	
Other	
Date final records received	
Electric logs:	
<u>Dual Induction Satilog</u>	<u>4-12-84 (1)</u>

STATUS	STATUS
Producing - Oil <input checked="" type="checkbox"/>	Water Disposal <input type="checkbox"/>
Idle - Oil <input type="checkbox"/>	Water Flood <input type="checkbox"/>
Abandoned - Oil <input type="checkbox"/>	Steam Flood <input type="checkbox"/>
Drilling - Idle <input type="checkbox"/>	Fire Flood <input type="checkbox"/>
Abandoned - Dry Hole <input type="checkbox"/>	Air Injection <input type="checkbox"/>
Producing - Gas <input type="checkbox"/>	Gas Injection <input type="checkbox"/>
Idle - Gas <input type="checkbox"/>	CO2 Injection <input type="checkbox"/>
Abandoned - Gas <input type="checkbox"/>	LPG Injection <input type="checkbox"/>
Gas-Open to Oil Zone <input type="checkbox"/>	Observation <input type="checkbox"/>
Water Flood Source <input type="checkbox"/>	
DATE	
RECOMPLETED <u>3/21/84</u>	
REMARKS	

**ENGINEER'S CHECK LIST**

- Summary, History, & Core record (dupl.)
- Electric Log
- Operator's Name \_\_\_\_\_
- Signature \_\_\_\_\_
- Well Designation \_\_\_\_\_
- Location \_\_\_\_\_
- Elevation \_\_\_\_\_
- Notices \_\_\_\_\_
- "T" Reports \_\_\_\_\_
- Casing Record \_\_\_\_\_
- Plugs \_\_\_\_\_
- Surface Inspection \_\_\_\_\_
- Production \_\_\_\_\_
- E Well on Prod. Dir. Sur. Next

**CLERICAL CHECK LIST**

- Location change (F-OGD165) \_\_\_\_\_
- Elevation change (F-OGD165) \_\_\_\_\_
- Form OGD121 \_\_\_\_\_
- Form OGD159 (Final Letter) \_\_\_\_\_
- Form OGD150b (Release of Bond) \_\_\_\_\_
- Duplicate logs to archives \_\_\_\_\_
- Notice of Records due (F-OGD170) \_\_\_\_\_

UPDATE CENTER 1/10/85

RECORDS NOT APPROVED  
 Reason: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

RECORDS APPROVED HO 1/3/85  
 RELEASE BOND \_\_\_\_\_  
 Date Eligible \_\_\_\_\_  
 (Use date last needed records were received.)  
 MAP AND MAP BOOK 2 NC

**CHECK LIST - RECORDS RECEIVED AND WELL STATUS**

Well No. \_\_\_\_\_

API No. \_\_\_\_\_ Sec. \_\_\_\_\_, T. \_\_\_\_\_, R. \_\_\_\_\_, \_\_\_\_\_ B.&M.

<u>WORK PERFORMED</u>	<u>STATUS</u>	<u>DATE</u>
Drill _____ Redrill _____ Deepen _____	Producing _____	
Plug _____ Alter Casing _____	Recompleted Producing _____	
Water Flood _____ Water Disposal _____	Water Flood _____	
Abandon _____	Water Disposal _____	
Other _____	Abandoned _____	
	Other _____	
	MAP AND BOOK _____ Engineer _____	

RECORDS FILED AND DATE Clerk \_\_\_\_\_

Summary \_\_\_\_\_  
 Log and Core \_\_\_\_\_  
 History \_\_\_\_\_  
 E-log \_\_\_\_\_  
 \_\_\_\_\_  
 Directional Survey \_\_\_\_\_  
 Other \_\_\_\_\_

(Check records for signature and correct name of operator or well, section, township, range, and field.)

Location \_\_\_\_\_ Notice states \_\_\_\_\_

Elevation \_\_\_\_\_ Notice states \_\_\_\_\_

Production Reports \_\_\_\_\_

(If production reports not received, make notation and inform Senior Stenographer when received.)

RECORDS & REQUIREMENTS CHECKED Engineer \_\_\_\_\_

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Surface Inspection \_\_\_\_\_

Data Needed \_\_\_\_\_

Request Records \_\_\_\_\_ OGD170 \_\_\_\_\_

Correct records \_\_\_\_\_ OGD165 \_\_\_\_\_  
 (Specify)

CARDS \_\_\_\_\_

BOND \_\_\_\_\_

Hold \_\_\_\_\_ Reason \_\_\_\_\_

Release \_\_\_\_\_ Date Eligible \_\_\_\_\_ OGD150 \_\_\_\_\_

End premium year \_\_\_\_\_

Release requested \_\_\_\_\_

Bond superseded \_\_\_\_\_ (Check One)

Well abandoned \_\_\_\_\_

Environmental Inspection \_\_\_\_\_ Engineer \_\_\_\_\_

FINAL LETTER \_\_\_\_\_ OGD159 \_\_\_\_\_

and  
 File cleared \_\_\_\_\_ OGD121 \_\_\_\_\_

SUBMIT IN DUPLICATE  
RESOURCES AGENCY OF CALIFORNIA  
DEPARTMENT OF CONSERVATION  
**DIVISION OF OIL AND GAS**

**History of Oil or Gas Well**

Operator Xtra Energy Corporation..... Field Wilmington..... County Los Angeles.....  
Well WNF-I #20A....., Sec. 19....., T. 4S....., R. 13W, S.B.B. & M.  
A.P.I. No. 037-22652-01..... Name John D. Carmichael..... Title Senior Vice President  
Date March 21,....., 19 84..... (Person submitting report) (President, Secretary or Agent)

Signature *John D. Carmichael*

2501 Cherry Avenue Suite 270, Signal Hill CA 90806..... (Address) .....(213) 424-8549..... (Telephone Number)

History must be complete in all detail. Use this form to report all operations during drilling and testing of the well or during redrilling or altering the casing, plugging, or abandonment with the dates thereof. Include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, sidetracked junk, bailing tests and initial production data.

Date	
3-3-84	MI fr WNF-I # 25, RU, now N/U BOP @ 6 A.M.
3-4-84	Drld rat hole, tst BOP to 1000 psi, OK, RIH w/ 6-1/4" bit, P/U 3-1/2" DP, fnd cmt top @ 4912', displaced hole w/polymer mud, C/O cmt fr 4912' to 4933', hit lnr @ 4933', now C & C mud for log @ 6 A.M. Polymer mud wt 75#/CF, Vis 40", WL - N/C, Cake - film, Solids - trace, Sand - trace, 209,600 ppm Cl, Oil - trace, pH 6.8.
3-5-84	POH, D-A ran PDC GR & collar loc log, fnd btm @ 4933, csg shoe @ 4920', RIH w/mill, milled fr 4933 to 4942', fell off of fish, unable to locate fish, POH, RIH w/Dynadril to 4920', orientate tool to low side, drld to 4952' @ 6 A.M. Polymer mud wt 74#/CF, Vis 55", WL 3 - 5 cc, Cake - film, Solids 1.0%, Sand 0.25%, 216,800 ppm Cl, Oil - trace, pH 7.8.
3-6-84	Unable to side track hole fr 4920' to 4978', circ cln, POH, RIH w/2-3/8" tbg tail, wsh fr 4960' to 4978', dsplsd 30 sx "G" cmt mxd w/0.75% densifier & 2% CaCl <sub>2</sub> , equalized cmt, P/U & circ cln @ 4228', POH, RIH w/6-1/4" bit & csg scrpr, fnd soft cmt @ 4922', POH, RIH w/Dynadril, WOC, tag soft cmt @ 4922', C/O to 4930', cmt hard, POH, now GIH w/ 2-3/8" tbg tail to reset plg @ 6 A.M. Polymer mud wt 74#/CF, Vis 52", WL 8.8 cc, Cake - film, Solids 1.0%, Sand - trace, 216,000 ppm Cl, Oil - trace, pH 11.5.
3-7-84	RIH to 4930', circ cln, B-J pmpd 50 CF wtr, 30 sx "G" cmt w/0.5% densifier & 2% CaCl <sub>2</sub> & 20 CF wtr behind, P/U to 4180', circ cln, fin POH, RIH w/ 6-1/4" bit & csg scrpr, felt for cmt after 6 hrs, lwrd bit to 4916', did not find cmt, P/U to 4896', circ out green unset cmt, circ cln, some lost circ material in rtns, POH, RIH w/2-3/8" tbg tail to 4927', circ cln, B-J pmpd 100 CF wtr, 100 CF caustic wtr, 50 sx "G" cmt followed by 50 CF wtr behind, P/U to 4087', circ cln, press up on csg to 200 psi. Now POH @ 6 A.M. Had 50 psi press loss in 4 hrs. Polymer mud wt 74#/CF, Vis 38", WL 10.0 cc, Cake - film, Solids - trace, Sand - trace, 196,000 ppm Cl, Oil - trace, pH 11.0.

- 3-8-84 RIH w/6-1/4" bit & csg scrpr, fnd cmt @ 4675', circ to 4705', D/O hard cmt fr 4705' to 4921', circ cln, POH, RIH w/Dynadril w/bent housing & 2° kick sub, Dynadrld to 4926', hit lnr stub, POH, RIH w/concave mill, mill on lnr @ 6 A.M. Have made 1.5'. Polymer mud wt 72#/CF, Vis 42", WL - N/C, Cake 1/32", Solids 1.25%, Sand 0.5%, 118,000 ppm Cl Oil - trace, pH 11.0.
- 3-9-84 Mill on lnr fr 4934' to 4938', fell off of lnr, RT for 6-1/4" bit, hit lnr @ 4935', unable to work past, circ cln, RT for under reamer, opn 6-1/4" hole to 12" fr 4920' to 4934', circ cln, POH, RIH w/2-3/8" tbg tail to 4934', unable to get deeper, B-J pmpd 100 CF FW, 100 CF caustic wtr, 50 sx "G" cmt mxd w/0.5% densifier & 2% CaCl<sub>2</sub>, 50 CF FW, P/U to 4100', circ cln, CIP @ 2:30 A.M. Clsd in well w/200 psi, now WOC @ 6 A.M. Polymer mud wt 70#/CF, Vis 51", WL 10.0 cc, Cake - film, Solids - trace, Sand 1.0%, 106,800 ppm Cl, Oil - trace, pH 11.0.
- 3-10-84 Cont'd WOC until 8 A.M. POH w/tbg tail, RIH w/ 6-1/4" bit to 4830', no cmt, circ cln, fnd green cmt in rtns, shut in well w/500 psi on csg, WOC until 7:30 P.M., fnd firm cmt @ 4831', C/O to 4871', C/O hard cmt to 4921', circ cln, POH, RIH W/bent hsg Dynadril & 2° kick sub, orientate tools to go off on left side, Dynadrld fr 4821' to 4938' @ 6 A.M. Polymer mud wt 73#/CF, Vis 41", WL 10.00 cc, Cake - film, Solids 1.0%, Sand - trace, 140,000 ppm Cl, Oil - trace, pH 11.0.
- 3-11-84 Cont'd Dynadrilg 6-1/4" hole to 4941', POH w/Dynadril, RIH w/6-1/4" drlg assy, drld to 4962', P/U for connection, unable to wrk past junk @ 4962', RT for concave mill, milled on junk fr 4962' to 4967'. Now POH w/mill. Polymer mud wt 74#/CF, Vis 51", WL 5.0 cc, Cake - film, Solids 1.0%, Sand - trace, 140,300 Oil - trace, pH 11.0.
- 3-12-84 Fin POH w/mill, mill showed wear in center, RIH w/ JB to 4964', circ & made 2.5' of hole, POH, ret pcs of SS collar & some lnr wire, RIH w/bit, drld fr 4967' to 4977', wrkd past junk, cont'd drlg to 5060', wipe hole to 7" shoe @ 4920', circ cln, RU DA for log @ 6 A.M. Polymer mud wt 74#/CF, Vis 46", WL 3.0 cc, Cake - film, Solids 2.5%, Sand 0.5%, 138,600 ppm Cl, Oil - trace, pH 10.0.
- CORRECTION on 3-12-84 Report: Should have been RU Gearhart for log @ 6 A.M.
- 3-13-84 Gearhart ran GR - dual Induction log fr 5060' to 4920', RIH w/ King under reamer, opn 6" hole to 12" fr 4920' to 4965', hole opnr torquing up, POH, left 3 arms off of hole opnr in hole, RIH w/ 6 1/4" bit, chased junk fr 4965' to 5050', Circ, P/U into 7" shoe, wait 20 min, RIH, hit junk at 4957', wrk'd junk dn to 5020', torquing up, POH, Now RIH w/ mill. Polymer mud wt 72#/CF, Vis 40", WL 3.0 cc, Cake -film, Solids 3%, Sand - 0.5%, 128,800 ppm Cl, Oil - trace, pH 10.0.
- 3-14-84 Milled on junk fr hole opnr fr 4960' to 5044', RT for hole opnr, opn 6-1/4" hole to 12" fr 4960' to 4995', hole seems to be sloughing @ this depth, unable to go deeper but under reamer not torquing up, now POH @ 6 A.M. Polymer mud wt 73#/CF, Vis 51", WL - N/C, Cake - film, Solids 2.5%, Sand 0.5%, 140,000 ppm Cl, Oil - trace, pH 10.0.

- 3-15-84 Fin POH, lost 3 arms off of hole opnr, RIH w/mill, milled on arms fr 4990' to 4995', RTC mill, milled to 5023'. Now RTC mill @ 6 A.M. Polymer mud wt 75#/CF, Vis 52", WL - N/C, Cake - film, Solids 2.0%, Sand 0.25%, 162,000 ppm Cl, Oil - trace, pH 9.0.
- 3-16-84 RIH w/mill #3, wrkd past & milled junk fr 4990' to 5042', POH, Gearhart ran Caliper & collar log, RIH w/under reamer, unable to go below 5023', POH, RIH w/2-3/8" tbg tail, B-J pmpd 50 bbls FW, 100 CF caustic flush, 45 sx "G" neat cmt mxd w/0.5% densifier & 2% CaCl<sub>2</sub> followed by 50 CF of FW, plg fr 5023' to 4935', CIP @ 3:30 A.M. P/U to 4920', circ cln, now POH @ 6 A.M. Polymer mud wt 75#/CF, Vis 48", WL - N/C, Cake - film, Solids 2.0%, Sand 0.25%, 160,000 ppm Cl, Oil - trace, pH 11.0.
- 3-17-84 RIH w/bit, circ @ 4920', WOC until 11:30 P.M., fnd cmt @ 5002', RT for tbg tail, B-J pmpd 50 bbls FW, 50 CF caustic wtr, 80 sx neat G cmt mxd w/3% CaCl<sub>2</sub> & 0.5% densifier, 140 CF FW, P/U to 4517, circ 1 hr, RIH to 4935', circ 2 hrs, lwr to 4944', soft cmt, RT for bit, chkd soft cmt @ 12 MN @ 4944', WOC 4 hrs, lwr & fnd cmt @ 4974', now WO B-J to lay another plug @ 6 A.M. Polymer mud wt 73#/CF, Vis 34", WL - N/C, Cake - film, Solids 2.5%, Sand 0.25%, 142,000 ppm Cl, Oil - trace, pH 12.5.
- 3-18-84 POH w/bit, RIH w/OE DP, B-J pmpd 150 CF caustic pre-flush, 100 sx "G" neat cmt w/3% CaCl<sub>2</sub>, 140 CF FW, P/U to 4600', circ 30 min, lwr to 4939', circ out, POH, RIH w/Dynadril & 6-1/4" bit, cmt @ 4939', WOC until 3 P.M. Dynadril & surveyed fr 4939' to 5050', RT for King hole opnr, opn hole to 12" fr 4939' to 5003' @ 6 A.M. Polymer mud wt 73#/CF, Vis 34", WL - N/C, Cake - film, Solids 2.0%, Sand 0.25%, 142,000 ppm Cl, Oil - trace, pH 12.5.
- 3-19-84 Cont'd opng hole fr 5003' to 5007', unable to wrk deeper, RT for bit, C/O bridge @ 5007', C/O to 5050', RT for hole opnr, opn hole fr 5007' to 5050', regauge hole twice, POH, now GIH w/192' of slotted 5" lnr @ 6 A.M. Polymer mud wt 75#/CF, Vis 36", WL - N/C, Cake - film, Solids 2.00%, Sand - trace, 158,000 ppm Cl, Oil - trace, pH 11.0.
- 3-20-84 Fin RIH w/lnr, brk circ @ 8 A.M., started gvl pkg, 10 sx/hr, 250 psi, w/58 sx away Nelson gvl pk unit failed, RD Nelson, RU B-J, started gvl pkg w/12 sx/hr 500 psi, 35 sx away, press rose to 1200 psi, unable to pmp more gvl, total gvl behind lnr 93 sx, RD B-J, set lnr hngr & lead seal, chng over to lease wtr, now POH, LD 3-1/2" DP @ 6 A.M. Polymer mud wt 74#/CF, Vis 36", WL - N/C, Cake - film, Solids 2.0%, Sand - trace, 158,000 ppm Cl, Oil - trace, pH 10.6.
- 3-21-84 Fin POH & LD 3-1/2" DP, rmvd BOP, RR @ 4 P.M. RD to move to WNF-I #69. Now moving rig.

## WELL SUMMARY REPORT

Operator <b>Xtra Energy Corporation</b>		Well <b>WNF-I #20A</b>				
Field <b>Wilmington</b>		County <b>Los Angeles</b>	Sec. <b>19</b>	T. <b>4S</b>	R. <b>13W</b>	B.&M. <b>S.B.</b>
Location (Give surface location from property or section corner, street center line and/or California coordinates) <b>131' North and 129' East from the Northeast corner of Main St. and the AT &amp; SF right of way in the city of Carson.</b>					Elevation of ground above sea level <b>38'</b>	
Commenced drilling (date) <b>3/3/84</b>	Total depth			Depth measurements taken from top of:		
Completed drilling (date) <b>3/21/84</b>	(1st hole) <b>5050'</b>	(2nd)	(3rd)	<input type="checkbox"/> Derrick Floor <input type="checkbox"/> Rotary Table <input checked="" type="checkbox"/> Kelly Bushing Which is <b>22</b> feet above ground		
Commenced producing (date)	Present effective depth <b>5050'</b>			GEOLOGICAL MARKERS		
<input type="checkbox"/> Flowing <input checked="" type="checkbox"/> Pumping <input type="checkbox"/> Gas lift	Junk			"F" MARKER		
Name of producing zone(s) <b>Ranger</b>				DEPTH <b>3627'</b>		
Formation and age at total depth						

	Clean Oil (bbl per day)	Gravity Clean Oil	Percent Water including emulsion	Gas (Mcf per day)	Tubing Pressure	Casing Pressure
Initial Production	21	14	35.1		50	
Production After 30 days						

### CASING RECORD (Present Hole)

Size of Casing (API)	Top of Casing	Depth of Shoe	Weight of Casing	Grade and Type of Casing	New or Second Hand	Size of Hole Drilled	Number of Sacks or Cubic Feet of Cement	Depth of Cementing (if through perforations)
10 3/4"	Surf	611'	40.5#	K-55	New	14 3/4'	540 sx	
7"	Surf	4920'	23#	K-55	New	9 7/8'	590 sx	
5"	4857'	5045'	18#	Slotted liner				

#### PERFORATED CASING (Size, top, bottom, perforated intervals, size and spacing of perforation and method.)

5" - 18# liner w/ 2" x 40 mesh machine cut slots.  
20 Rows 6" centers. Perfs from 4904' to 5045'.

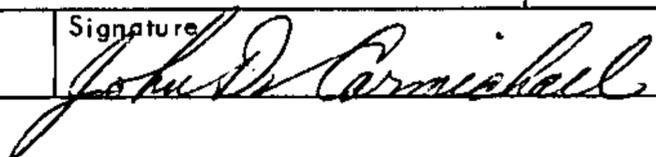
Was the well directionally drilled? If yes, show coordinates at total depth

Yes     No    Previous coordinates of well #20: 2911'N and 674'East. (Well 20A sidetracked)

Electrical log depths  
5050' - 4920'

Other surveys  
None

In compliance with Sec. 3215, Division 3 of the Public Resources Code, the information given herewith is a complete and correct record of the present condition of the well and all work done thereon, so far as can be determined from all available records.

Name <b>Xtra Energy Corporation</b>		Title <b>Senior Vice President</b>	
Address <b>2501 Cherry Avenue Suite 270</b>		City <b>Signal Hill CA</b>	Zip Code <b>90806</b>
Telephone Number <b>(213) 424-8549</b>	Signature 	Date <b>April 11, 1984</b>	

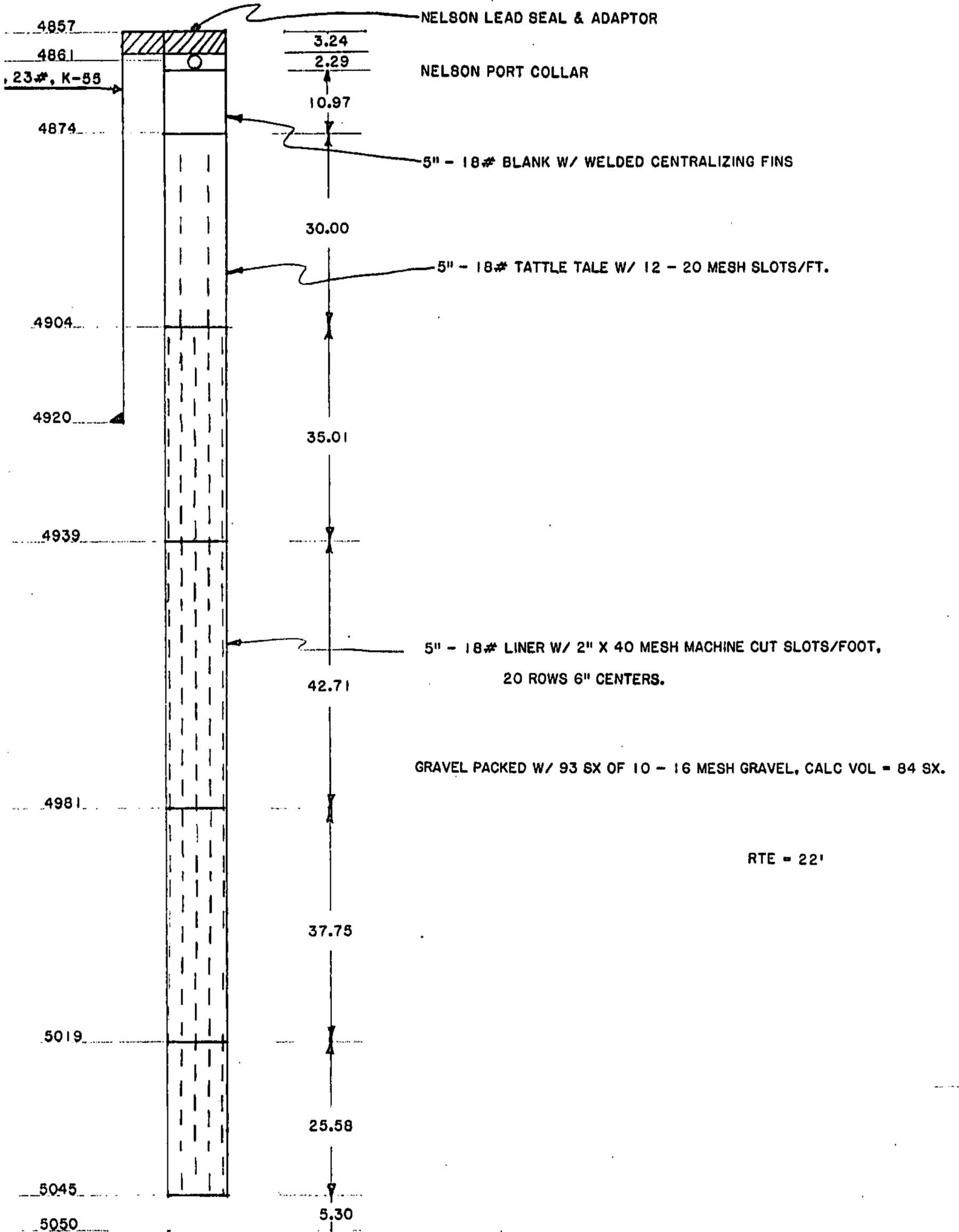
SUBMIT IN DUPLICATE

RECEIVED  
APR 12 3 4 PM '84  
LONE BEACH, CA.  
NO GAS

# XTRA ENERGY CORPORATION

## LINER DETAIL

WNF-I #20A



WNF-I #20A

**DIVISION OF OIL AND GAS**

**Report on Operations**

SEC. 3606 WELL

John D. Carmichael, Agent  
XTRA ENERGY CORPORATION  
P.O. Box "9"  
Signal Hill, CA 90801

Long Beach, Calif.  
April 3, 1984

Your operations at well "WNF-I" 20, API No. 037-22652-01,  
Sec. 19, T. 4S, R. 13W, S. B. B. & M. Wilmington Field, in Los Angeles County,  
were witnessed on 3-3-84. M. Johnson, Engineer, representative of  
the supervisor, was present from 1600 to 1700. There were also present Chip Stewart,  
Drilling Foreman

Present condition of well: 10-3/4" cem 601', 7" cem 4910', perf 4892' WSO; 5" ld 4825'-  
5050', pulled fr 4933'. TD 5050'. Plugged w/cem 4923'-4880'.

The operations were performed for the purpose of testing the blowout prevention equipment and  
installation.

DECISION: APPROVED.

NOTE: DEFICIENCIES TO BE CORRECTED  
NONE

DEFICIENCIES CORRECTED  
NONE

CONTRACTOR: Cal Pacific Drilling Co.

MJ:mh

cc: Update

M. G. MEFFERD  
State Oil and Gas Supervisor  
V. F. Gaede  
Deputy Supervisor



DEFICIENCIES—TO BE CORRECTED

NONE

DEFICIENCIES—CORRECTED

NONE

CONTRACTOR

CAL PACIFIC DRILLING CO.

# PERMIT TO CONDUCT WELL OPERATIONS

SEC. 3606 WELL

848  
(field code)  
03  
(area code)  
00  
(new pool code)  
00  
(old pool code)

John D. Carmichael, Agent  
XTRA ENERGY CORPORATION  
P.O. Box "9"  
Signal Hill, CA 90801

Long Beach, California  
February 7, 1984

Your proposal to redrill well "WNF-I" 20,  
A.P.I. No. 037-22652-01, Section 19, T. 4S, R. 13W, S.B. B. & M.,  
Wilmington field, Fault Block I, Onshore area, Ranger pool,  
Los Angeles County, dated 1-24-84, received 1-25-84 has been examined in conjunction with records  
filed in this office.

THE PROPOSAL IS APPROVED PROVIDED:

1. Blowout prevention equipment, equivalent to this division's Class IIIB3M requirements, or better, shall be installed and maintained in operating condition.
2. Drilling fluid of a quality and in sufficient quantity to control all subsurface conditions in order to prevent blowouts shall be used.
3. The provisions of Sec. 3606 relating to derricks and subsurface spacing shall be followed.
4. A directional survey shall be made and filed with this division.
5. THIS DIVISION SHALL BE NOTIFIED TO WITNESS A TEST OF THE INSTALLED BLOWOUT PREVENTION EQUIPMENT PRIOR TO DRILLING BELOW 4920'.

NOTE: A crew drill may be required at the time of the blowout prevention equipment test.

HRO:mh

cc: Update  
EDP

BLANKET BOND

549,9419  
424-854  
549-6984

Engineer Herman R. Olilang

Phone (213) 590-5311

M. G. MEFFERD, State Oil and Gas Supervisor

By [Signature]  
V. F. Gaede, Deputy Supervisor

**A copy of this report and the proposal must be posted at the well site prior to commencing operations.**

**Records for work done under this permit are due within 60 days after the work has been completed or the operations have been suspended.**

OG  
Redrill - 01

OG 107 (8/79)

RESOURCES AGENCY OF CALIFORNIA  
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

Notice of Intention to Rework Well

This notice and indemnity or cash bond shall be filed, and approval given, before rework begins. If operations have not commenced within one year of receipt of the notice, this notice will be considered cancelled.

FOR DIVISION USE ONLY			
BOND	FORMS		
	OGD 114	OGD 121	CARD
Blanket	2-1-84 CP	2-1-84 CP	2-1-84 CP

DIVISION OF OIL AND GAS

In compliance with Section 3203, Division 3, Public Resources Code, notice is hereby given that it is our intention to rework well WNF-I #20 (Well designation), API No. 037-22652-01  
 Sec. 19, T. 4S, R. 13W, S.B. & M., Wilmington Field, Los Angeles County.

The present condition of the well is as follows:

1. Total depth 5050'

2. Complete casing record, including plugs and perforations

10 3/4", 40.5#, K-55, Cemented @ 611' ←  
 7", 23#, K-55, Cemented @ 4920', perf 4892' dno  
 5", 18#, Screen liner stub @ 4933'  
 cement plug fr 4923' to 4880'

3. Present producing zone name Ranger; Zone in which well is to be recompleted Ranger

4. Present zone pressure 1350 psi; New zone pressure 1350 psi

5. Last produced 10-7-83 13 4 0  
 (Date) (Oil, B/D) (Water, B/D) (Gas, Mcf/D)

Last injected \_\_\_\_\_  
 (Date) (Water, B/D) (Gas, Mcf/D) (Surface pressure, psig)

The proposed work is as follows:

The liner has parted in this well @ 4933'. The top 98' of liner was recovered and a cement plug set on top of the old liner stub.

It is now proposed to redrill the well from the shoe of the 7" casing.

It is understood that if changes in this plan become necessary, we are to notify you immediately.

Address 2501 Cherry Avenue Suite 270  
 (Street)  
Signal Hill CA 90806  
 (City) (State) (Zip)  
 Telephone Number (213) 424-8549

Xtra Energy Corporation  
 (Name of Operator)  
 By John D. Carmichael  
 (Print Name)  
John D. Carmichael  
 (Signature) 1-24-84  
 (Date)

RECEIVED

JAN 25 1 55 PM '84

GAS

DIV. OF  
LONG BEACH, CA.

XTRA ENERGY CORPORATION

PROGRAM FOR REDRILLING

WELL NO. 20

REFERENCE POINT:

K.B. which is 22' above G.E.

ELEVATION:

38' G.E. + 22' K.B. = 60'

CASING:

10-3/4", 40.5# cemented @ 611'  
7 " , 23# cemented @ 4920'  
5 " liner fish top @ 4933'

PLUG:

25 sack cement plug, top @ 4880'

PROPOSAL:

Side track hole and redrill well from the shoe of the 7" casing.

PROCEDURE:

1. Move in rotary equipment. D.O.G. to witness BOP tests.
2. Pick up 3-1/2" drill pipe and run in hole with 6-1/4" bit and 4-3/4" drill collars. Circulate with Polymer mud.
3. Drill out cement to 7" shoe @ 4920'.
4. Run Dresser-Atlas PDC gamma ray and collar log.
5. Side track old liner using a Dynadril.
6. Drill 6-1/4" hole to 5050'.
7. Run Dresser-Atlas IES log.
8. Open 6-1/4" hole to 12" being careful not to hit the old liner stub.
9. Run 5" slotted liner.
10. Gravel pack liner with 10-16 mesh gravel.
11. Set drive on lead seal, change well over to lease water and move off.

JDC:sc   
1-19-84

STATE OF CALIFORNIA  
DEPARTMENT OF CONSERVATION  
DIVISION OF OIL AND GAS

REPORT ON PROPOSED CHANGE OF WELL DESIGNATION

Long Beach, California

October 17, 1983

John D. Carmichael, Agent  
XTRA ENERGY CORPORATION  
2501 Cherry Avenue, Suite 270  
Signal Hill, CA 90806

Your request, dated September 15, 1983, proposing to change the designation of  
see  
well(s) in Sec. below, T. 4S, R. 13W, S. B. & M., Wilmington field,  
Los Angeles County, District No. 1, has been received.

The proposed change in designation, in accordance with Section 3203, Public Resources Code, is authorized  
as follows: Sec. 19-4S-13W

OLD	NEW	DESIGN.	API 037-	OLD	NEW	API 037-
8	"WNF-I"	8	22620	"American Can"	1	"WNF-I" 12 21433
10	"WNF-I"	10	22611	"	2	"WNF-I" 15 21644
18	"WNF-I"	18	22853	"	3	"WNF-I" 3 21768
19	"WNF-I"	19	22846	"Dasco Unit"	1	"WNF-I" 1 21671
20	"WNF-I"	20	22652	I-14		"WNF-I" 11 22603
23	"WNF-I"	23	22672	"Purex Unit"	1	"WNF-I" 9 21669
26	"WNF-I"	26	22666-01	"	2	"WNF-I" 5 21753
27	"WNF-I"	27	22673	"	3	"WNF-I" 4 21754
28	"WNF-I"	28	22674	"Sanitation Unit"	1	"WNF-I" 21 21445
29	"WNF-I"	29	22648	<u>Sec. 20-4S-13W</u>		
43	"WNF-I"	43	22682	31	"WNF-I" 31 22767	36 "WNF-I" 36 22769
<u>Sec. 20-4S-13W</u>				33	"WNF-I" 33 22768	37 "WNF-I" 37 22796
42	"WNF-I"	42	22689	34	"WNF-I" 34 22787	38 "WNF-I" 38 22752
44	"WNF-I"	44	22820	35	"WNF-I" 35 22795	39 "WNF-I" 39 22754

M. G. MEFFERD, State Oil and Gas Supervisor

By Richard C. Gaede

FOR V. F. GAEDE, Deputy Supervisor

EDP  
Update  
Conservation Committee  
Long Beach Dept. of Oil Properties  
OGD 157 (3-79-DWRR-1M)

Sec. 20-4S-13W

<u>OLD.</u>	<u>NEW</u>	<u>API</u>
		<u>037-</u>
"Shell Unit" 1	"WNF-I" 32	21729
"Shell Unit" 2	"WNF-I" 40	21769

Sec. 29-4S-13W

"Lomita Unit" 1	"WNF-I" 67	22487
49	"WNF-I" 49	22886
50	"WNF-I" 50	22884
51	"WNF-I" 51	22885
53	"WNF-I" 53	22874
54	"WNF-I" 54	22871
56	"WNF-I" 56	22865
57	"WNF-I" 57	22815

DIVISION OF OIL AND GAS

CHECK LIST - RECORDS RECEIVED AND WELL STATUS

Company Xtra Energy Well No. 20  
 API No. 037-22652 Sec. 19, T. 45, R. 13W, S.B. B.&M.  
 County L.A. Field Wilmington

RECORDS RECEIVED	DATE	
Well Summary (Form OG100)	<u>10/22/82</u>	<u>(2)</u>
History (Form OG103)	<u>10/22/82</u>	<u>(2)</u>
Core Record (Form OG101)		
Directional Survey	<u>10/22/82</u>	<u>(2)</u>
Sidewall Samples		
Other		
Date final records received		
Electric logs:		
<u>Ind. Elect.</u>	<u>10/22/82</u>	<u>(2)</u>
<u>and. Elect.</u>	<u>10/22/82</u>	<u>(2)</u>

STATUS		STATUS	
Producing - Oil	<u>X</u>	Water Disposal	_____
Idle - Oil	_____	Water Flood	_____
Abandoned - Oil	_____	Steam Flood	_____
Drilling - Idle	_____	Fire Flood	_____
Abandoned - Dry Hole	_____	Air Injection	_____
Producing - Gas	_____	Gas Injection	_____
Idle - Gas	_____	CO2 Injection	_____
Abandoned - Gas	_____	LPG Injection	_____
Gas-Open to Oil Zone	_____	Observation	_____
Water Flood Source	_____		
DATE	<u>5-24-82</u>		
RECOMPLETED			
REMARKS			

- ENGINEER'S CHECK LIST**
- Summary, History, & Core record (dupl.) \_\_\_\_\_
  - Electric Log ✓
  - Operator's Name ✓
  - Signature ✓
  - Well Designation ✓
  - Location ✓
  - Elevation ✓
  - Notices ✓
  - "T" Reports ✓
  - Casing Record ✓
  - Plugs ✓
  - Surface Inspection \_\_\_\_\_
  - Production \_\_\_\_\_
  - E Well on Prod. Dir. Sur. \_\_\_\_\_

- CLERICAL CHECK LIST**
- Location change (F-OGD165) \_\_\_\_\_
  - Elevation change (F-OGD165) \_\_\_\_\_
  - Form OGD121 \_\_\_\_\_
  - Form OG159 (Final Letter) \_\_\_\_\_
  - Form OGD150b (Release of Bond) \_\_\_\_\_
  - Duplicate logs to archives \_\_\_\_\_
  - Notice of Records due (F-OGD170) \_\_\_\_\_

UPDATE CENTER 11/22/82

BB

RECORDS NOT APPROVED  
 Reason: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

RECORDS APPROVED WF Brannon 11-12-82  
 RELEASE BOND \_\_\_\_\_  
 Date Eligible \_\_\_\_\_  
 (Use date last needed records were received.)  
 MAP AND MAP BOOK 128  
11/2/82

**CHECK LIST - RECORDS RECEIVED AND WELL STATUS**

Well No. \_\_\_\_\_

API No. \_\_\_\_\_ Sec. \_\_\_\_\_, T. \_\_\_\_\_, R. \_\_\_\_\_, \_\_\_\_\_ B.&M.

<u>WORK PERFORMED</u>	<u>STATUS</u>	<u>DATE</u>
Drill _____ Redrill _____ Deepen _____	Producing _____	
Plug _____ Alter Casing _____	Recompleted Producing _____	
Water Flood _____ Water Disposal _____	Water Flood _____	
Abandon _____	Water Disposal _____	
Other _____	Abandoned _____	
	Other _____	
	MAP AND BOOK _____ Engineer _____	

RECORDS FILED AND DATE Clerk \_\_\_\_\_

Summary \_\_\_\_\_  
 Log and Core \_\_\_\_\_  
 History \_\_\_\_\_  
 E-log \_\_\_\_\_  
 \_\_\_\_\_  
 Directional Survey \_\_\_\_\_  
 Other \_\_\_\_\_

(Check records for signature and correct name of operator or well, section, township, range, and field.)

Location \_\_\_\_\_ Notice states \_\_\_\_\_

Elevation \_\_\_\_\_ Notice states \_\_\_\_\_

Production Reports \_\_\_\_\_

(If production reports not received, make notation and inform Senior Stenographer when received.)

RECORDS & REQUIREMENTS CHECKED Engineer \_\_\_\_\_

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Surface Inspection \_\_\_\_\_

Data Needed \_\_\_\_\_

Request Records \_\_\_\_\_ OGD170 \_\_\_\_\_

Correct records \_\_\_\_\_ OGD165 \_\_\_\_\_  
 (Specify)

CARDS \_\_\_\_\_

BOND \_\_\_\_\_

Hold \_\_\_\_\_ Reason \_\_\_\_\_

Release \_\_\_\_\_ Date Eligible \_\_\_\_\_ OGD150 \_\_\_\_\_

End premium year \_\_\_\_\_

Release requested \_\_\_\_\_

Bond superseded \_\_\_\_\_ (Check One)

Well abandoned \_\_\_\_\_

Environmental Inspection \_\_\_\_\_ Engineer \_\_\_\_\_

FINAL LETTER \_\_\_\_\_ OGD159 \_\_\_\_\_

and  
 File cleared \_\_\_\_\_ OGD121 \_\_\_\_\_

**WELL SUMMARY REPORT**

Operator XTRA ENERGY CORPORATION		Well NO. 20				
Field WILMINGTON		County LOS ANGELES	Sec. 19	T. 4S	R. 13W	B.&M. S.B.
Location (Give surface location from property or section corner, street center line and/or California coordinates) 131' NORTH & 129' EAST FROM THE SOUTH WEST CORNER OF THE PROPERTY WHICH IS THE NORTH EAST CORNER OF MAIN ST & THE AT&SF RIGHT-OF-WAY.					Elevation of ground above sea level 38'	
Commenced drilling (date) 5-7-82	Total depth			Depth measurements taken from top of:		
Completed drilling (date) 5-22-82	(1st hole) 5065'	(2nd)	(3rd)	<input type="checkbox"/> Derrick Floor <input type="checkbox"/> Rotary Table <input checked="" type="checkbox"/> Kelly Bushing Which is 12 feet above ground		
Commenced producing (date) 6-18-82	Present effective depth 5044'			GEOLOGICAL MARKERS "F" MARKER DEPTH 4905'		
<input type="checkbox"/> Flowing <input checked="" type="checkbox"/> Pumping <input type="checkbox"/> Gas lift	Junk			Formation and age at total depth		
Name of producing zone(s) RANGER						

	Clean Oil (bbl per day)	Gravity Clean Oil	Percent Water including emulsion	Gas (Mcf per day)	Tubing Pressure	Casing Pressure
Initial Production	19	14.6	39	-	60 psi	60 psi
Production After 30 days	19	14.3	42	-	60 psi	60 psi

CASING RECORD (Present Hole)

Size of Casing (API)	Top of Casing	Depth of Shoe	Weight of Casing	Grade and Type of Casing	New or Second Hand	Size of Hole Drilled	Number of Sacks or Cubic Feet of Cement	Depth of Cementing (if through perforations)
10-3/4"	SURF	601'	40.5	J-55	NEW	14-3/4"	540 sx	
7"	SURF	4910'	23	K-55	NEW	9-7/8"	590 sx	
5"	4825'	5050	18	N-80	NEW	6-1/4"	12" GVL PKD.	

PERFORATED CASING (Size, top, bottom, perforated intervals, size and spacing of perforation and method.)  
5" JOHNSON "PIPELESS" STAINLESS STEEL WIRE WRAPPED SCREEN WITH 0.012" SLOTS. GRAVEL PACKED WITH 85 SX OF 20 - 40 MESH GRAVEL. (SEE LINER DETAIL ATTACHED)

Was the well directionally drilled? If yes, show coordinates at total depth  
 Yes     No    2911' NORTH AND 674' EAST @ 5065', TVD 3806'

Electrical log depths  
5055' to 600'

Other surveys  
NONE

In compliance with Sec. 3215, Division 3 of the Public Resources Code, the information given herewith is a complete and correct record of the present condition of the well and all work done thereon, so far as can be determined from all available records.

Name JOHN D. CARMICHAEL	Title SENIOR VICE PRESIDENT	
Address 717 WALTON STREET	City SIGNAL HILL, CA	Zip Code 90806
Telephone Number (213) 424-8549	Signature <i>John D. Carmichael</i>	Date OCTOBER 20, 1982

RECEIVED  
OCT 22 1 22 PM '82  
LIV...  
LON...  
...GAS  
...H, CA

SUBMIT IN DUPLICATE  
RESOURCES AGENCY OF CALIFORNIA  
DEPARTMENT OF CONSERVATION  
**DIVISION OF OIL AND GAS**

**History of Oil or Gas Well**

Operator Xtra Energy Corporation Field L.A. County County Los Angeles  
Well No. 20 , Sec. 19 , T4S , R 13 S.B. B. & M.  
A.P.I. No. 037-22652 Name John D. Carmichael Title Vice President  
Date 10-20 , 1982 (Person submitting report) (President, Secretary or Agent)

Signature John D. Carmichael

717 Walton Street, Signal Hill, California 90806 (Address) (213) 424-8540 (Telephone Number)

History must be complete in all detail. Use this form to report all operations during drilling and testing of the well or during redrilling or altering the casing, plugging, or abandonment with the dates thereof. Include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, bailing tests and initial production data.

Date	
5-8	MI fr Well No. 29, RU, spud in @ 9 PM 5-7-82, Now drlg 9-7/8" hole @ 300'. CB mud wt 71#/CF, vis 44", WL 14 cc, cake 3/32", 9% solids, 2% oil,
5-9	POH @ 300', RIH w/Dynadril, drld & surveyed fr 300' to 615', POH, RIH w/14-3/4" Smith hole opnr, opnd 9-7/8" hole to 14-3/4" fr surf to 601', C & C mud, POH, RIH w/15 jts of 10-3/4", 40.5#, J-55, ST&C csg eqpd w/B & W stab-in shoe, total of 603.03', shoe @ 600'. Dowell pmpd 100 CF dye wtr, 300 sx "G" cmt mxd 1:1:4, 180 sx "G" cmt neat, all cmt mxd w/2% CaCl <sub>2</sub> , good circ thru job but no cmt rtns, CIP @ 4:50 A.M. RU to do top cmt job. CB mud wt 73#/CF, vis 48", WL 12.5 cc, Cake 3/32", 10% solids, 1% oil. SS @ 570', 10° N 10° E. hole is 3' rt & 4' hi.
5-10	10-3/4" - 601' Ran 1" pipe to 70' on outside of 10-3/4" csg, Dowell pmpd 60 sx "G" neat cmt, good rtns, CIP @ 6:30 A.M., cut off 20.52' of 10-3/4" csg, instld well head & BOP, unable to test BOP, pmpd away @ 600#, set Johnston RBP @ 272', tst BOP, OK by DOG, POH w/RBP, RIH w/9-7/8" bit, C/O cmt & shoe, C/O to 615', trip for Dynadril, drld & surveyed to 715' @ 6 A.M. SS @ 700', 13° 30', N 14° 30' E, hole is 5-1/2' hi & 2-3/4' rt. CB mud wt 73#/CF, vis 39", WL 9.1 cc, cake 2/32", 11% solids, 1/4% snd, 1% oil,
5-11	10-3/4" - 601' Cont'd Dynadrilg & surveying 9-7/8" hole fr 715' to 998', trip for angle bldg assy, cont'd drlg & surveying to 1902' @ 6 A.M. SS @ 1840', 44°, N 11° E, hole is 3' lo and 15' left. CB mud wt 72#/CF, vis 40", WL 6.2 cc, cake 1/32", 9% solids, 8% oil,
5-12	10-3/4" - 601' Cont'd drlg & surveying 9-7/8" hole w/angle bldg assy fr 1902' to 2149', POH, RIH w/9-7/8" locked up drlg assy, drld & surveyed to 2822' @ 6 A.M., SS @ 2731', 55° 45', N 12° E, hole is on line for inclination & 28' left. CB mud wt 74#/CF, vis 42", WL 6.0 cc, 2/32" cake, 1/2% snd, 6% oil.

- 5-13 Cont'd drlg & surveying 9-7/8" hole fr 2822' to 2853', RT chng bit, cont'd drlg to 3475', now POH to chng bit. SS @ 3463', 53° 30', N 13° E, hole is 6' lo & 29' left. CB mud wt 73#/CF, vis 38", WL 6.4 cc, cake 2/32", 1/4% snd, 4% oil.
- 5-14 Fin POH, chngd bit, RIH, orders chngd, POH, chngd to angle dropping drlg assy, RIH to 3475', drld & surveyed 9-7/8" hole to 3708', trip to change bit & locked in drlg assy, now drlg @ 3800' @ 6 A.M. SS @ 3769', 48° 15', N 15° E, hole is 25' left & 5' lo. CB mud wt 74#/CF, vis 40", WL 6.8 cc, 1/2% snd, 8% oil.
- 5-15 Cont'd drlg & surveying 9-7/8" hole fr 3800' to 4134', RT for bit & angle dropping drlg assy, Cont'd drlg fr 4134' to 4224' @ 6 A.M. SS @ 4194', 46° 15', N 16° E, hole is 32' lo & 10' left. CB mud wt 74#/CF, vis 38", WL 5.8 cc, 2/32" cake, 6% oil.
- 5-16 Cont'd drlg & surveying 9-7/8" hole fr 4224' to 4682', made wiper run to 4100', cont'd drlg to 4702' @ 6 A.M. SS @ 4621', 39° 45', N 16° E, hole is 2' rt & 27' lo. CB mud wt 75#/CF, vis 39", WL 6.4 cc, cake 2/32", 1/4% snd, 5% oil.
- 5-17 Cont'd drlg & surveying 9-7/8" hole fr 4702' to 4774', RT chng bit, drld fr 4774' to 4895', C & C mud, RT for 6-1/4" drlg assy, drld fr 4895' to 4996' @ 6 A.M. SS @ 4895', 37° 45', N 16° 30' E, hole is 10' rt & 21' lo. CB mud wt 75#/CF, vis 38", WL 5.8 cc, cake 2/32", 1/2% snd, 4% oil.
- 5-18 Cont'd drlg & surveying 6-1/4" hole fr 4996' to 5065', made wiper run to 4895', C & C mud, spot Drispac pill, POH w/MSS, D-A ran IES log, MSS no good, bad compass, RIH w/MSS, lwrd shoulder fr 4895' to 4910', C & C mud. Now POH, LD 4-1/2" DP. SS @ 4992', 37° 15', N 13° 30' E, hole is 13-1/2' rt & 16' lo. CB mud wt 75#/CF, vis 41", WL 6.1 cc, cake 1/32", 0.5% snd, 4% oil.
- 5-19 Fin LD 4-1/2" DP, RU H & H Tong Serv, Ran 7" - 23# K-55 Butt R-3 csg as follows: B & W Basket shoe @ 4910', 2 jt 7" csg, B & W FC @ 4821', 131 jts 7" csg to surf, B-J cmtrs pmpd 80 CF weighted "Mud Sweep", 510 sx "G" cmt mxd 1:1:4, 80 sx "G" cmt neat, all cmt mxd w/2% CaCl<sub>2</sub>, dsplsd cmt w/1074 CF mud, did not bump plgs, CIP @ 2:45 P.M. Landed csg w/10,000# over wt of string, rmvd BOP, cut off 20.91' of csg, instld tbg hd. Instld BOP, P/U & measure 3-1/2" DP & GIH w/ 6-1/4" bit, fnd cmt @ 4797', now C/O cmt.
- 5-20 D/O cmt fr 4797' to FC @ 4821', D/O FC & cmt to 4900', Circ cln, POH, RIH w/Lynes WSO tool, perf'd 4 - 1/2" holes @ 4892', opnd tool @ 1:05 P.M, li blo for 10 mins then dead, rlsd tool @ 2:05 P.M., POH, 15' fluid rise, WSO OK'd by D.O.G. RIH w/ 6-1/4" drlg assy, D/O shoe @ 4910', C/O to 5065', chng over to Polymer mud, POH, RIH w/Tri-State hole opnr, now opng 6-1/4" hole to 12" fr 4910' to 4937' @ 6 A.M. Polymer mud, wt 71#/CF, vis 38", WL 8.5 cc, 1.5% solids, cake - film.
- 5-21 Cont'd opng 6-1/4" hole to 12" fr 4937' to 5050', regauge hole, POH, D-A ran Caliper log fr 5050' to 4910', RIH w/6-1/4" bit to 5060', C & C mud, POH, RIH w/5" wire wrapped lnr as follows: shoe - 5.12' screen 20.29', pup 2.15', screen 20.13', pup 2.11', screen 20.10', pup 2.11', screen 20.10', pup 2.13', screen 20.17', pup 2.20', screen 11.50', pup 2.15', screen 5.17', blank 82.25', landing nip & adaptor 7.38', shoe @ 5050', lead seal adaptor @ 4825', now ready to gvl pk.

5-22 5" wire wrapped lnr - top @ 4825', shoe @ 5050', B-J fin grvl pkg lnr w/84 CF prepad, 284 CF slurry @ 10#/gal of 20-40 snd, post pad of 28 CF, sand out @ 2000#, shut in press 1100#, 84% of Calc pack. Total of 80 sx 20-40 mesh snd, POH, RIH w/A & A lead seal adaptor, set @ 4825', P/U to 4820', chng over to produced wtr, POH & LD 3-1/2" DP, rmvd BOP, ran 2 jts 2-7/8" tbg, landed on tbg hd, RR @ 6 A.M. RD to move to well No. 26.

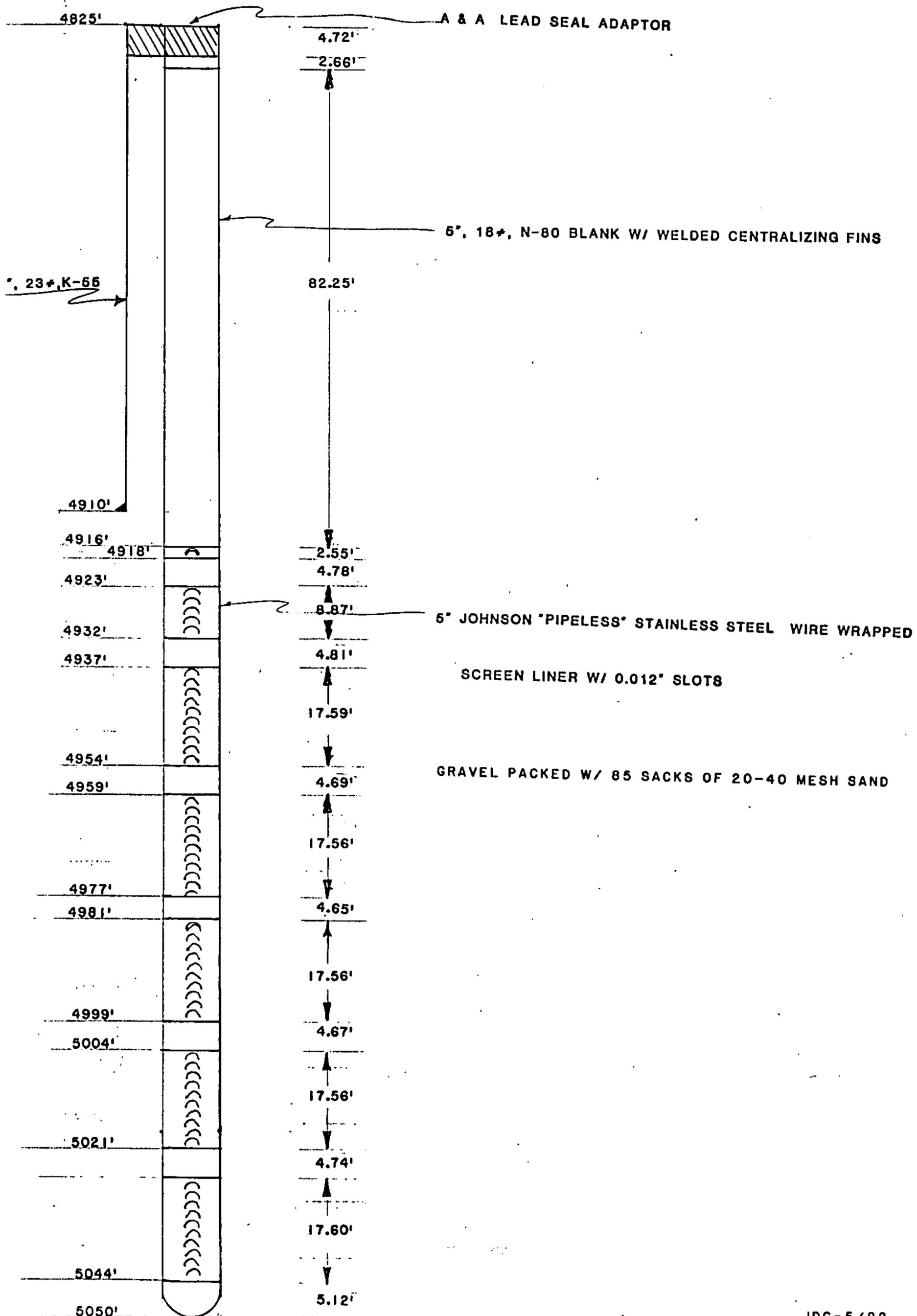
5-23 From 6 A.M. to 3 P.M. RD & prep rig to move to Well No. 26.

5-24 Rig idle, prep to move on 5-24-82.

# XTRA ENERGY CORP.

## LINER DETAIL

### WELL NO. 20



THIS WELL WAS CHANGED FROM TORRANCE FIELD TO THE  
WILMINGTON FIELD AS PER THE FIELD BOUNDARY CHANGE  
ON SEPTEMBER 10, 1982.

DIVISION OF OIL AND GAS

Report on Operations

SEC. 3606 WELL

John D. Carmichael, Agent  
XTRA ENERGY CORPORATION  
717 Walton Street  
Signal Hill, CA 90806

Long Beach Calif.  
June 25, 1982

Your operations at well 20, API No. 037-22652,  
Sec. 19, T. 4S, R. 13W, S.B.B. & M. -- Field, in Los Angeles County County,  
were witnessed on 5/19/82 by S. Mulqueen, Engineer, representative of  
the supervisor, was present from 1530 to 1630. There were also present Wayne Eatman,

Present condition of well: 10-3/4" cem 601'; 7" cem 4910', Perf 4892' WSO. TD 4910', (drilling)

The operations were performed for the purpose of testing the 7" shut-off at 4892' with a formation tester.

DECISION: APPROVED

NOTE: DEFICIENCIES TO BE CORRECTED  
NONE

DEFICIENCIES CORRECTED  
NONE

CONTRACTOR - California Production Service, Inc.

SM:csw

cc: Update

M.G. MEFFERD

State Oil and Gas Supervisor

By [Signature]  
Deputy Supervisor

Operator XTRA ENERGY CORP.

Well designation 20 Sec. 19, T. 4S, R. 13W, SB B.&M.

Field LOS ANGELES CO., County LOS ANGELES was tested for water shutoff on 5-19-82. (Name) S. MULQUEEN, representative of the supervisor, was present from 1530 to 1630. Also present were DWAYNE EATMAN

Casing record of well: 10 3/4" CEM 601'; 7" CEM 4910'; PERF 4892' WSO, TD 4910' (DRILLING)

The operations were performed for the purpose of (D-1) 7" @ 4892'

- The 7 " shutoff at 4892 ' is approved.
- The seal between the \_\_\_\_\_ " and \_\_\_\_\_ " casings is approved.
- The operations are approved as indicating that all of the injection fluid is confined to the formations below \_\_\_\_\_ ' at this time.

Hole size: 14 3/4 " fr. 0 ' to 601 ' ; 9 7/8 " to 4910 ' ; & \_\_\_\_\_ " to \_\_\_\_\_ '

Casing				Cemented			Top of Fill		Sqd. Away	Final Press	Test psi/min. Perfs.
Size	Wt.	Top	Bottom	Date	MO-Depth	Volume	Annulus	Casing			
7"	23	0'	4910	5-18-82	FLOAT COLLAR @ 4821	590.2	2230'	4821'	—	800	—

Depth or interval tested 4892'  
The hole was open to 4910 ' for test.

FORMATION TEST:

Packer(s) 4834 ' & \_\_\_\_\_ ' Tail 4863 ' Bean size 3/4 " Cushion \_\_\_\_\_  
IHP 2173 IFP 31 FFP 31 FHP 2118  
Blow FAINT 5 MIN., DEAD FOR REMAINDER OF TEST  
Open for test \_\_\_\_\_ Hr. \_\_\_\_\_ min. Fluid entry 15' DRILLING MUD

BAILING TEST:

The hole fluid was bailed to \_\_\_\_\_ ' , at \_\_\_\_\_ on \_\_\_\_\_ 19\_\_ .  
The hole fluid was found at \_\_\_\_\_ ' , at \_\_\_\_\_ on \_\_\_\_\_ 19\_\_ .  
(time)

PRODUCTION TEST:

Gauge/meter reading \_\_\_\_\_ on \_\_\_\_\_ 19\_\_ , at \_\_\_\_\_ pump depth \_\_\_\_\_ ' Engr. \_\_\_\_\_  
Gauge/meter reading \_\_\_\_\_ on \_\_\_\_\_ 19\_\_ , at \_\_\_\_\_ Engr. \_\_\_\_\_  
Fluid level \_\_\_\_\_ ' surveyed on \_\_\_\_\_ 19\_\_ , reviewed (witnessed) by \_\_\_\_\_  
Total fluid produced, Bbls. \_\_\_\_\_ Net oil \_\_\_\_\_ Water \_\_\_\_\_  
Rate: \_\_\_\_\_ B/D oil, \_\_\_\_\_ B/D water, \_\_\_\_\_ % water cut

INJECTION SURVEY:

RA/Spinner/Temperature survey run at \_\_\_\_\_ B/D & \_\_\_\_\_ psi on \_\_\_\_\_ 19\_\_ ,  
fluid confined below \_\_\_\_\_ ' (Packer depth \_\_\_\_\_ ' )

DEFICIENCIES—TO BE CORRECTED

*NONE*

DEFICIENCIES—CORRECTED

*NONE*

CONTRACTOR

*CALIFORNIA PRODUCTION SERVICE, INC.*

DIVISION OF OIL AND GAS

Report on Operations

SEC. 3606 WELL

John D. Carmichael, Agent  
XTRA ENERGY CORPORATION  
717 Walton Street  
Signal Hill, CA 90806

Long Beach Calif.  
June 25, 1982

Your operations at well 20, API No. 037-22652  
Sec. 19, T. 4S, R. 13W S.B. B. & M. -- Field, in Los Angeles County,  
were witnessed on 5/9/82 by R. Navia, Engineer, representative of  
the supervisor, was present from 1930 to 2030. There were also present Bill Witherspoon,  
Drilling Foreman

Present condition of well: 10-3/4" cem 601'. TD 615' (Drilling)  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

The operations were performed for the purpose of testing the blowout prevention equipment and installation.

DECISION: APPROVED

NOTE: DEFICIENCIES TO BE CORRECTED  
NONE:

DEFICIENCIES CORRECTED  
1. Standpipe pressure gauge defective.

CONTRACTOR - California Production Service, Inc.

RN: csw

cc: Update

M. G. MEEFERD  
State Oil and Gas Supervisor  
By [Signature]  
Deputy Supervisor

DIVISION OF OIL AND GAS  
BLOWOUT PREVENTION EQUIPMENT MEMO

RH 6-22-82  
T 182-568

Operator Xtra Energy Corp. Well # 20 Field Los Angeles Co. County LA

VISITS: Date 5/9/82 Engineer R. NAVIA Time 1930 to 2030 Operator's Rep. Bill Witherspoon Title DF

Casing record of well: 10 3/4" cpm 601. TD 615 (drilling)

OPERATION: Testing (inspecting) the blowout prevention equipment and installation.  
DECISION: The blowout prevention equipment and installation are approved.

Proposed Well Opns: Drill MPSP: \_\_\_\_\_ psi  
Hole size: 14 3/4" fr. 0 to 615 " to \_\_\_\_\_ " to \_\_\_\_\_ " to \_\_\_\_\_ "

REQUIRED  
BOPE CLASS: III-B-34

CASING RECORD (BOPE ANCHOR STRING ONLY)					Cement Details		Top of Cement	
Size	Weight(s)	Grade (s)	Shoe at	CP at			Casing	Annulus
10 3/4	40.5#	U-55	601		300' SX	Class G cem	591±	6±

BOP STACK							a	b	a/b	TEST DATA			
API Symb.	Ram Sz.	Mfr.	Model or Type	Size In.	Press. Rtg.	Date Last Overhaul	Gal. to Close	Rec. Time Min.	Calc. GPM Output	psi Drop to Close	Secs. to Close	Test Date	Test Press.
A	10	Hydril	GK	10	3000							5/9	650
Rel	4 1/2	Chaffin	E	"	"							5/9	700
Rel	CSO	"	E	"	"							5/9	800

ACTUATING SYSTEM			
Accum. Unit(s)	Wkg. Press.	3000 psi	
Total Rated Pump Output	_____ gpm		
Distance From Well Bore	100 ft.		
Mfr.	Accum. Cap.	Precharge	
1 Chaffin	80 gal.	1000 psi	
2	gal.	psi	
CONTROL STATIONS			Elec. Hyd.
<input checked="" type="checkbox"/> Manif. at accum. unit			<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Remote at Drlr's stn.			<input checked="" type="checkbox"/>
Other: _____			
EMERG. BACKUP SYST.		Press.	Wkg. Fl.
<input checked="" type="checkbox"/> N2 Cyl	No: 4	Tpe: 1/500	gal
Other:		21000	gal
		32000	gal
		42200	gal
		5	gal
		6	gal

AUXILIARY EQUIPMENT						
	No.	Sz. (in)	Rated Press.	Connections		
				Weld	Flan.	Thrd.
<input checked="" type="checkbox"/> Fill-Up Line						
<input checked="" type="checkbox"/> Kill Line		2	3000			650
<input checked="" type="checkbox"/> Control Valve(s)	1					
<input checked="" type="checkbox"/> Check Valve(s)	1					
<input checked="" type="checkbox"/> Auxil. Pump Connec.						
<input checked="" type="checkbox"/> Choke Line		2				
<input checked="" type="checkbox"/> Control Valve(s)	6					
<input checked="" type="checkbox"/> Pressure Gauge						
<input checked="" type="checkbox"/> Adjustable Choke(s)	2	2				
<input checked="" type="checkbox"/> Bleed Line		2				
<input checked="" type="checkbox"/> Upper Kelly Cock						
<input checked="" type="checkbox"/> Lower Kelly Cock		4 1/2				V
<input checked="" type="checkbox"/> Standpipe Valve						
<input checked="" type="checkbox"/> Standpipe Pressure Ga.						
<input checked="" type="checkbox"/> Pipe Safety Valve		4 1/2				
<input checked="" type="checkbox"/> Internal Preventer		4 1/2				

HOLE FLUID MONITORING EQUIPMENT			
	Alarm	Class	
<input checked="" type="checkbox"/> Calibrated Mud Pit	Aud. Vis.	A	
<input checked="" type="checkbox"/> Pit Level Indicator		B	
<input checked="" type="checkbox"/> Pump Stroke Counter		B	
<input checked="" type="checkbox"/> Pit Level Recorder		C	
<input checked="" type="checkbox"/> Flow Sensor		C	
<input checked="" type="checkbox"/> Mud Totalizer		C	
<input checked="" type="checkbox"/> Calibrated Trip Tank		C	
Other: _____			

REMARKS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Hole Fluid Type	Weight	Storage-Pits
Clay base	74 pcf	115 Pits

DEFICIENCIES—TO BE CORRECTED

*Note*

DEFICIENCIES—CORRECTED

*Standpipe pressure gauge defective*

CONTRACTOR

*California Production Services, Inc.*

**REPORT ON PROPOSED OPERATIONS**

00

(field code)

00

(area code)

00

(new pool code)

--

(old pool code)

John D. Carmichael, Agent  
XTRA ENERGY CORPORATION  
717 Walton Street  
Signal Hill, CA 90806

Long Beach, CaliforniaApril 16, 1982

Your Drill proposal to 20 well WNF-1 20  
A.P.I. No. 037-22652, Section 19, T. 4S, R. 13W, S.B. B. & M.,  
Los Angeles County field, - - - area, - - - pool;  
Los Angeles County, dated 4-12-82, received 4-14-82 has been examined in conjunction with records  
filed in this office.

## THE PROPOSAL IS APPROVED PROVIDED:

1. Blowout prevention equipment, equivalent to this division's Class III-B-3M requirements, or better, shall be installed and maintained in operating condition.
2. Drilling fluid of a quality and in sufficient quantity to control all subsurface conditions in order to prevent blowouts shall be used.
3. All oil, gas or fresh water sands behind the 7" casing shall be protected by either lifting cement or by multiple stage cementing.
4. This division shall be consulted and a supplementary notice may be required before making any changes in the proposed program.
5. The provisions of Sec. 3606 relating to derricks and subsurface spacing shall be followed.
6. A directional survey shall be made and filed with this division.
7. THIS DIVISION SHALL BE NOTIFIED:
  - a. To witness a test of the installed blowout prevention equipment prior to drilling out cement in the shoe of the 10-3/4" casing.
  - b. To witness a test of the effectiveness of the 7" shut-off above the Ranger zone.

RHS:da

cc: Update  
EDP

Blanket Bond

M. G. MEFFERD, State Oil and Gas Supervisor

By J. L. Hardoin  
J. L. HARDOIN, Deputy Supervisor**A copy of this report and the proposal must be posted at the well site prior to commencing operations.****Records for work done under this permit are due within 60 days after the work has been completed or the operations have been suspended.**

**DIVISION OF OIL AND GAS**  
**Notice of Intention to Drill New Well**

C.E.Q.A. INFORMATION			
EXEMPT CLASS <input checked="" type="checkbox"/>	NEG. DEC. <input type="checkbox"/>	E.I.R. <input type="checkbox"/>	DOCUMENT NOT REQUIRED BY LOCAL JURISDICTION <input type="checkbox"/>
S.C.H. NO. _____	S.C.H. NO. _____	S.C.H. NO. _____	
See Reverse Side			

FOR DIVISION USE ONLY					
MAP	MAP BOOK	CARDS	BOND	FORMS	
				114	121
28	111	45-52	Blanket	4-15-82	4-15-82

In compliance with Section 3203, Division 3, Public Resources Code, notice is hereby given that it is our intention to commence drilling well No. 20, API No. 037-22652,  
 Sec. 19, T. 4S, R. 13W, S.B.B. & M., LOS ANGELES CO. ~~Wilmington~~ Field, Los Angeles County.  
 (Assigned by Division)

Legal description of mineral-right lease, consisting of 103 acres, is as follows: \_\_\_\_\_  
 (Attach map or plat to scale)  
Map of Sanitation District Unit previously submitted.

(Bottom hole location I-7)

Do mineral and surface leases coincide? Yes \_\_\_\_\_ No X. If answer is no, attach legal description of both surface and mineral leases, and map or plat to scale.

Location of well 131 feet North along section ~~XXXX~~ property line and 129 feet East  
 (Direction) (Cross out one) (Direction)  
 at right angles to said line from the Southwest corner of section ~~XXXX~~ property which is of ~~XXXX~~  
 (Cross out one)  
the North East corner of Main Street and the AT & SF right-of-way.

Is this a critical well according to the definition on the reverse side of this form? Yes  No

If well is to be directionally drilled, show proposed coordinates (from surface location) at total depth:  
2852 feet North and 661 feet East  
 (Direction) (Direction)

Elevation of ground above sea level 50 feet.

All depth measurements taken from top of Kelly Bushings that is 12 feet above ground.  
 (Derrick Floor, Rotary Table, or Kelly Bushing)

**PROPOSED CASING PROGRAM**

SIZE OF CASING INCHES API	WEIGHT	GRADE AND TYPE	TOP	BOTTOM	CEMENTING DEPTHS	CALCULATED FILL BEHIND CASING (Linear Feet)
10-3/4"	40.5	J-55	Surf	600'	600'	600'
7"	23#	K-55	Surf	4910'	4910'	2950'
5"	18#		4840'	5060'	Wire wrapped screen liner w/0.012" slots gravel packed.	

(A complete drilling program is preferred and may be submitted in lieu of the above program.)

Intended zone(s) of completion Ranger, -3640', 1200 psi Estimated total depth 5060'  
 (Name, depth, and expected pressure)

It is understood that if changes in this plan become necessary we are to notify you immediately.

Name of Operator <u>XTRA ENERGY CORPORATION</u>	Type of Organization (Corporation, Partnership, Individual, etc.) <u>Corporation</u>
Address <u>717 Walton Street</u>	City <u>Signal Hill, CA</u>
Telephone Number <u>(213)424-8549</u>	Zip Code <u>90806</u>
Name of Person Filing Notice <u>John D. Carmichael</u>	Signature <u>John D. Carmichael</u>
	Date <u>4-12-82</u>

This notice and indemnity or cash bond shall be filed, and approval given, before drilling begins. If operations have not commenced within one year of receipt of the notice, this notice will be considered cancelled.

Information for compliance with the California Environmental Quality Act of 1970 (C.E.Q.A.).

If an environmental document has been prepared by the lead agency, please submit a copy of the document with this notice or supply the following information:

APR 14 11 59 AM '82  
DIVISION OF ENVIRONMENTAL HEALTH AND GAS  
LOS ANGELES, CALIF. CA.

Lead Agency: CITY OF CARSON

Lead Agency Contact Person: Joel Miller

Address: P.O. Box 6234

CARSON, CA 90749

Phone: (213) 830-7600

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District review of environmental document (if applicable)?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Remarks:	

### CRITICAL WELL

As defined in the California Administrative Code, Title 14, Section 1720(a), "Critical well" means a well within:

- (1) 300 feet of the following:
  - (A) Any building intended for human occupancy that is not necessary to the operation of the well; or
  - (B) Any airport runway.
- (2) 100 feet of the following:
  - (A) Any dedicated public street, highway, or nearest rail of an operating railway that is in general use;
  - (B) Any navigable body of water or watercourse perennially covered by water;
  - (C) Any public recreational facility such as a golf course, amusement park, picnic ground, campground, or any other area of periodic high-density population; or
  - (D) Any officially recognized wildlife preserve.

Exceptions or additions to this definition may be established by the supervisor upon his own judgment or upon written request of an operator. This written request shall contain justification for such an exception.

XTRA ENERGY CORPORATION

PROGRAM FOR DRILLING

WELL No. 20

Reference Point: KB which is 12' above G. E.  
Surface Location: Lambert Coordinates N-4,041,448 E-4,204,704  
Bottom Hole Location: Lambert Coordinates N-4,044,300 E-4,205,365  
Elevation: 38' GE + 12' KB = 50'

Proposed Casing Program:

10-3/4" 40.5 # to be cemented at 600'  
7 " 23 # to be cemented at 4910'  
5 " 18 # to be hung at 5060', top @ 4840'.

Perfs: 4915' to 5055' Wire wrapped pipeless Johnson Screen liner with  
0.012" slots.

Proposed Hole Size:

0' to 600' 14-3/4" hole  
600' to 4910' 9-7/8" hole  
4910' to 5060' 6-1/4" hole to be underreamed to 12".

Proposed Total Depth: 5060'

Directional Program

Deflect hole at 300' and increase inclination at 3°/100' in a N 13 E direction to 54° at 2118' (T.V.D. - 1855'). Maintain 54° inclination to a depth of 3607'. Drop angle @ 1.5°/100' to total depth of 5060'. Target is a 100' diameter circle with its center 2852' North and 661' East of the surface site. A total displacement of 2928'.

Mud Program

1. For drilling from surface to 600', use a safe fresh water clay base mud.
2. For drilling from 600' to 4910', use a fresh water clay base mud with the following properties.
  - a. Weight 72#/CF
  - b. Fluid loss 5cc
  - c. P.V. 8 - 14 CPS
  - d. YP 4 - 6#/100 sq. ft.
  - e. Funnel vis 38 - 42"
  - f. Solids 10%

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LO. CA.

3. For underreaming 6-1/4" hole to 12", use a polymer mud with the following properties.

a.	Weight	72#/CF
b.	P.V.	12 - 18 CPS
c.	YP	4 - 6 #/100 sq. ft.
d.	Funnel vis	34 - 38"
e.	Solids	Minimum
f.	KCl (KCl)	4%

#### BOP Requirements

1. Bag type - Hydraulic 10" - 3000. 3000 psi WOG.
2. Ram type - double, hydraulic, 10" - 3000, 3000 psi WOG.
3. Accumulator - 80 gallon with dual controls.

#### Program

1. Install 16" conductor pipe to  $\pm$  40'.
2. Move in and rig up rotary equipment.
3. Drill 14-3/4" hole to 600'.
4. Run 10-3/4", 40.5#, J-55 casing to 600'. Casing to be fitted with B & W stab-in shoe and centralizers on 1st, 2nd and 3rd joints. Cement 10-3/4" casing with 300 sacks of API class "G" cement mixed 1:1 with peralites, 4% Gel followed by enough neat "G" cement to get cement returns. All cement to be mixed with 2% CaCl<sub>2</sub>.
5. Install wellhead and BOP. Representative of D.O.G. to witness pressure test of B.O.P.
6. Run 9-7/8" bit and clean out to 600'. Drill 9-7/8" hole to 4910'. Reduce hole size to 6-1/4" and drill to 5060'.
7. Run Induction electric log from total depth to the shoe of the 10-3/4" casing. Use 20 ohm scale. Two field prints are required including one with 5" scale.
8. Run 7", 23#, K-55 casing to 4910'. Casing to be fitted with B & W Basket Shoe and B & W float collar 2 joints above shoe. Centralizers to be installed on 1st, 2nd, 4th and 6th joints above shoe. Cement 7" casing as follows: 80 cubic feet of mud sweep or equivalent followed by 510 sacks of class "G" CEMENT mixed 1:1:4 (cement:perlite:gel), followed by 80 sacks "G" Cement neat. All cement to be mixed with 2% CaCl<sub>2</sub>. Cement to reach 2000'. Land casing.
9. After 24 hours, clean out cement to 4900' ( $\pm$  10' above shoe). Run combination jet perforator and casing tester. Shoot 4 holes as directed and test water shut off. Results of WSO test to be witnessed by representative of California Division of Oil and Gas.

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10. Run 6-1/4" bit, drill out shoe at 4910' and clean out to 5060'.
11. Change over to Polymer completion fluid.
12. Underream 6-1/4" hole to 12" from the 7" casing shoe to total depth.  
Run Caliper log.
13. Make up and run 5", 18#, K-55 liner as directed.
14. Gravel pack 5" x 12" annulus with ± 90 CF of 20 - 40 mesh gravel.
15. Displace Polymer mud in hole with salt water and close in.
16. Move out rotary equipment.

No.20  
JDC:sc  
4-12-82

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