Form 3160-5
(November 1983)
(Formerly 9-331)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

dsf

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

RECEIVED
MAR 29 1991
O. C. D.
ARTESIA, OFFICE

5. LEASE DESIGNATION AND SERIAL NO.: LC-028784-b

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

1. OIL WELL [X] GAS WELL [ ] OTHER

2. NAME OF OPERATOR: Phillips Petroleum Company

8. FARM OR LEASE NAME: Keely B Federal

3. ADDRESS OF OPERATOR: 4001 Penbrook Street, Odessa, Texas 79762

9. WELL NO.: 1

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface
Unit B, 660' FNL & 1980' FEL

10. FIELD AND POOL, OR WILDCAT: Gb/Jackson-SR-Q-Gb-SA

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: 26 - 17S - 29E

14. PERMIT NO.: API #30-015-03118

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 3587' DF

12. COUNTY OR PARISH: Eddy

13. STATE: NM

16. **Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data**

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF	[ ]	PULL OR ALTER CASING	[ ]
FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]
SHOOT OR ACIDIZE	[X]	ABANDON*	[ ]
REPAIR WELL	[ ]	CHANGE PLANS	[ ]
(Other)			

SUBSEQUENT REPORT OF:

WATER SHUT-OFF	[ ]	REPAIRING WELL	[ ]
FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
SHOOTING OR ACIDIZING	[ ]	ABANDONMENT*	[ ]
(Other)			

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Please see attached detailed procedure.

RECEIVED
MAR 26 11 33 AM '91
CARLSBAD AREA

-over-

18. I hereby certify that the foregoing is true and correct

SIGNED L. M. Sanders TITLE Reg. & Proration Supv. DATE 03-22-91

(This space for Federal or State office use)

APPROVED BY Orig. Signed by Adam Salameh TITLE PETROLEUM ENGINEER DATE 3-28-91

CONDITIONS OF APPROVAL, IF ANY:

***See Instructions on Reverse Side**

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

KEELY "B" FEDERAL NO. 1
RECOMMENDED PROCEDURE
MARCH 20, 1991

NOTE: 1. This is a No Category well.
2. Notify NMOCD and BLM 24 hours before commencing work.

1. MI and RU DDU. Pull rods and pump. Install BOP. COOH with 2-3/8" production tbg. Tag TD to check for fill. If necessary, clean out to ±3450'.

2. RU service company to perforate and set CIBP. GIH with 5-1/2" CIBP and set ±3100'. GIH with 4" csg gun, using 1/2" GSC charges, 4 spf (90° phasing), and perforate 5-1/2" casing at 2800'. COOH with csg gun & PU 1-9/16" Tubing Punch and perforate 5-1/2" casing from 2450'-2453' (4 shots).

Note: Correlate with Western's GR-Neutron log dated 9-25-57.

3. GIH w/ 5-1/2" RTTS-type packer on 2-3/8" workstring. Set RTTS at ±2750'. Establish pump in rate through perforations. Circulate, if possible, to clean up 5-1/2" x 7" csg annulus & 5-1/2" x 6-1/4" hole annulus.

Note: If circulation is not possible, proceed as follows:

i. Squeeze open perforations at 2800' with 25 sxs Class "C" with 2% $CaCl_2$. (Note: Approximate pump time is 2 hours.) Max pressure 1000 psi.
ii. Reset RTTS @ ±2480'. RU to perforate through tubing with 1-11/16" Hollow-Carrier gun, 2 spf, @ 2530'. Establish pump in rate through perforations. Circulate, if possible, to clean up annulus. If circulation is possible, perform step 4 with retainer set at ±2480'.
iii. If unable to circulate, squeeze perforations at 2530' with 25 sxs Class "C" with 2% $CaCl_2$. (Note: Approximate pump time is 2 hours.) Max pressure 1000 psi. Go to step 5.

4. COOH with RTTS & workstring. GIH with 5-1/2" retainer on 2-3/8" workstring. Set retainer @ ±2750'. MI & RU Cementer to perform squeeze. Test all surface lines to 2000 psig. Pump 70 sxs of Class "C" with 2% $CaCl_2$. (Note: Approximate pump time is 2 hours.) Do not exceed 1000 psig. COOH with workstring to ±2300'. Reverse out excess cement. COOH and SI for 24 hours.

5. PU 6-1/4" bit & DC's and drill out to top of 5-1/2" casing at 2339'. COOH and PU 4-3/4" bit and drill out to ±3450'. Circulate hole clean. COOH & LD bit & DC's.

6. MI & RU service company to perforate the following zones through the 5-1/2" & 7" csg with a 4" perforating gun and 1/2" GSC charges, 1 JSPF, at the following depths (**Note:** Correlate perforating depths to Western's GR-Neutron log dated 9/25/57):

   San Andres
   3161'-3178' (18 shots), 3140'-3150' (11 shots).

   Jackson
   2968'-2974' (7 shots), 2960', 2940'-2942' (3 shots), 2932'-2935' (4 shots), 2899', 2891'-2894' (4 shots), 2883'-2886' (4 shots), 2871', 2856', 2840'-2846' (7 shots), 2818'-2824' (7 shots), 2790'-2796' (7 shots).

   Premier
   2558', 2556', 2554', 2552', 2548'.

   Metex
   2503'-2507' (5 shots), 2491'-2495' (5 shots), 2460'-2464' (5 shots), 2440'-2446' (7 shots), 2436', 2429', 2426', 2390'-2394' (5 shots).

   Loco Hills
   2311'-2328' (18 shots).

   TOTAL SHOTS = 129 shots

7. GIH with 5-1/2" RTTS-type pkr on ±900' of 2-7/8", 6.5#/ft, EUE 8rd N-80 tbg and ±2350' 3-1/2", 9.3 lb/ft, EUE 8rd N-80 tbg. Test tbg to 5000 psi while GIH. Set packer @ ±3250'.

8. Service company to acidize open hole Keely zone at 3314'-3450' with 6000 gals Pentol 200 (20% NEFe HCl) in four stages using 1500 lb of rock salt in 1500 gals 9 ppg brine as a blocking agent as follows:

   a. Pressure test lines to 4000 psi. Load annulus, if possible, and monitor casing pressure throughout treatment for any indication of communication.
   b. Pump 1500 gals Pentol 200.
   c. Pump 500 gals blocking agent.
   d. Repeat b and c twice.
   e. Pump 1500 gals Pentol 200.
   f. Flush to bottom of open hole interval with lease produced water.

   Maximum Treating Pressure = 3500 psi
   Maximum Treating Rate = 5 BPM

9. Shut in four hours. Swab back load from Keely.

10. Service company to fracture treat Keely open hole zone at 3314'-3450' with 21,000 gals polyemulsion (2/3 lease crude and 1/3 30 lb gelled 2% KCl water with non-ionic emulsifier) carrying 63,500 lbs 20/40 mesh Vulcan Texsan sand, as follows:

Note:

* Review **Attachment** I on safety precautions for polyemulsion treatments.
* Nipple up wellhead so that well can be flowed back within 30 seconds of pump shut down.
* Install flow meter so that a rate of 5-10 gals/min can be monitored.
* Leave pressure connected to the van so that the fracture pressure can be monitored.
* Ensure that choke is completely closed before start of flowback.
* **LEASE CRUDE MUST BE IN FRAC TANKS OR STOCK TANK BARRELS AT ATMOSPHERIC PRESSURE AT LEAST 24 HOURS PRIOR TO JOB.**

a. Test all lines to 5000 psi. Install pressure relief valve on treating line and set it to relieve at 5000 psi. Load annulus, if possible, and monitor casing pressure throughout treatment for any indication of communication.
b. Pump 7500 gals polyemulsion as pad.
c. Pump 2000 gals with 2 ppg of 20/40 mesh sand.
d. Pump 2000 gals with 3 ppg of 20/40 mesh sand.
e. Pump 2500 gals with 4 ppg of 20/40 mesh sand.
f. Pump 2500 gals with 5 ppg of 20/40 mesh sand.
g. Pump 2500 gals with 6 ppg of 20/40 mesh sand.
h. Pump 2000 gals with 8 ppg of 20/40 mesh sand.
i. Flush to 3250' (RTTS depth) with 1/4 polyemulsion and 3/4 gelled water. **DO NOT OVERFLUSH.**
j. SI, record ISIP, then flow back within 30 seconds of pump shutdown. Monitor for closure, and continue to flow at a maximum rate of 10 gal/min for 30 minutes after fracture closure. After closure, flow at a maximum rate of 1/2 bbl/min until well dies.

Max. Treating Pressure = 4500 psi
Max. Treating Rate = 15 BPM

Minimum Inventory to Have on Location Prior to Treatment:

* 76,500 lbs Vulcan Texsan 20/40 sand.
* Frac tanks with 16,380 gals (390 bbls) lease crude.
* Frac tanks with 8,778 gals (209 bbls) gelled water.
* Firefighting equipment, sample bottles, and Fann 35 viscometer to be supplied by service company.

11. COOH with RTTS & workstring. LD RTTS & GBIH with workstring and CO to TD. COOH. PU 5-1/2" RBP & RTTS & GBIH on 3-1/2" x 2-7/8" workstring. Test tubing in hole to 5000 psi. Set RBP @ ±3230'. Test to RBP to 500 psi. Reset RTTS @ ±3090'.

12. Service company to acidize new San Andres perfs at 3140'-3178' with 1350 gals 15% NEFe HCl acid containing fines suspension agents and clay stabilizers, diverting with 45 1.3 SG RCN ball sealers, as follows:

a. Pressure test lines to 3500 psi. Load annulus, if possible, and monitor casing pressure throughout treatment for any indication of communication.
b. Establish pump-in rate with produced water. If 6 BPM rate cannot be established, release pkr and spot 200 gals 15% HCl with fines suspension agents & stabilizers across perfs. Reset pkr and bullhead acid to break down perfs.
c. Pump 270 gals 15% NEFe HCl acid.
d. Pump 810 gals 15% NEFe HCl acid, dropping 45 balls spaced evenly.
e. Pump 270 gals. 15% NEFe HCl acid.
f. Flush to 3178' with produced water.

Maximum Treating Pressure = 3000 psi
Maximum Treating Rate = 5 BPM

13. Release packer. Knock ball sealers from perfs. Reset packer @ ±3040' and swab back load from San Andres perfs.

14. Service company to fracture treat San Andres with 17,000 gallons polyemulsion (2/3 lease crude and 1/3 30# gelled 2% KCL water with non-ionic emulsifier) carrying 44,500 lbs. 16/30 Vulcan Texsan sand as follows:

Note: Review the six Notes listed in step 10, page 3.

a. Test all lines to 5000 psi. Install pressure relief valve on treating line and set it to relieve at 5000 psi. Load annulus, if possible, and monitor casing pressure throughout treatment for any indication of communication.
b. Pump 6000 gals polyemulsion as pad.
c. Pump 2000 gals with 2 ppg of 16/30 mesh sand.
d. Pump 2000 gals with 3 ppg of 16/30 mesh sand.
e. Pump 2500 gals with 4 ppg of 16/30 mesh sand.
f. Pump 2500 gals with 5 ppg of 16/30 mesh sand.
g. Pump 2000 gals with 6 ppg of 16/30 mesh sand.
h. Flush to 3040' (RTTS depth) with 1/4 polyemulsion and 3/4 gelled water. **DO NOT OVERFLUSH.**
i. SI, record ISIP, then flow back within 30 seconds of pump shutdown. Monitor for closure, and continue to flow at a maximum rate of 10 gal/min for 30 minutes after fracture closure. After closure, flow at a maximum rate of 1/2 bbl/min until well dies.

Max. Treating Pressure = 4500 psi
Max. Treating Rate = 15 BPM

Minimum Inventory to Have on Location Prior to Treatment:

* 53,400 lbs Vulcan Texsan 16/30 sand.
* Frac tanks with 12,685 gals (302 bbls) lease crude.
* Frac tanks with 7,014 gals (167 bbls) gelled water.
* Firefighting equipment, sample bottles, and Fann 35 viscometer to be supplied by service company.

15. COOH with RTTS & workstring. LD RTTS & GBIH with workstring and CO to top of RBP. COOH. PU 5-1/2" RTTS & RBP setting tool & GBIH on 3-1/2" x 2-7/8" workstring. Test tubing in hole to 5000 psi. Reset RBP @ ±3020'. Test RBP to 500 psi. Reset RTTS @ ±2740'.

16. Service company to acidize Jackson perfs at 2790'-2974' with 4800 gals Pentol 200 (20% NEFe HCl), diverting with 70 1.3 sg RCN ball sealers, as follows:

    a. Pressure test lines to 3500 psi. Load annulus, if possible, and monitor casing pressure throughout job for any indication of communication.
    b. Establish pump-in rate with produced water. If 5 BPM rate cannot be established, release pkr and spot 200 gals 15% HCl with fines suspension agents & stabilizers across perfs. Reset pkr and bullhead acid to break down perfs.
    c. Pump 960 gals Pentol 200 (20% NEFe HCl).
    d. Pump 2880 gals Pentol 200 (20% NEFe HCl), dropping 70 balls spaced evenly.
    e. Pump 960 gals Pentol 200 (20% NEFe HCl).
    f. Flush to 2974' with produced water.

    Maximum Treating Pressure = 3000 psi
    Maximum Treating Rate = 5 BPM

17. Shut in four hours. Release pkr & knock ball sealers off perfs. Reset pkr & swab back load from Jackson perfs. Reset RBP @ ±2600'. Test RBP to 500 psi.

19. RU service company to spot 500 gals 7-1/2% NEFe HCl containing fines suspension agents and clay stabilizers across new Premier perfs at 2548'-2558'. Set packer @ ±2520' & bullhead acid into perfs with produced water. Max Pressure = 3500 psi.

20. Swab back load from Premier. Reset pkr @ ±2520'.

21. Service company to fracture treat Premier perfs at 2548'-2558' with 10,000 gals polyemulsion (2/3 lease crude and 1/3 30 lb gelled 2% KCl water with non-ionic emulsifier) carrying 26,000 lbs 16/30 mesh Vulcan Texsan sand, as follows:

    Note: Review the six Notes listed in step 10, page 3.

    a. Test all lines to 4000 psi. Install pressure relief valve on treating line and set it to relieve at 4000 psi. Load annulus, if possible, and monitor casing pressure during treatment for any indication of communication.
    b. Pump 3500 gals polyemulsion as pad.
    c. Pump 1000 gals with 2 ppg of 16/30 mesh sand.
    d. Pump 1500 gals with 3 ppg of 16/30 mesh sand.
    e. Pump 1500 gals with 4 ppg of 16/30 mesh sand.
    f. Pump 1500 gals with 5 ppg of 16/30 mesh sand.

g. Pump 1000 gals with 6 ppg of 16/30 mesh sand.
h. Flush to 2520' (RTTS depth) with 1/4 polyemulsion and 3/4 gelled water. **DO NOT OVERFLUSH.**
i. SI, record ISIP, then flow back within 30 seconds of pump shutdown. Monitor for closure, and continue to flow at a maximum rate of 10 gal/min for 30 minutes after fracture closure. After closure, flow at a maximum rate of 1/2 bbl/min until well dies.

Maximum Treating Pressure = 3500 psi
Maximum Treating Rate = 12 BPM

Minimum Inventory to Have on Location Prior to Treatment:

* 31,500 lbs Vulcan Texsan 16/30 sand.
* Frac tanks with 7,896 gals (188 bbls) lease crude.
* Frac tanks with 4,494 gals (107 bbls) gelled water.
* Firefighting equipment, sample bottles, and Fann 35 viscometer to be supplied by service company.

22. COOH with RTTS & workstring. LD RTTS & GBIH with workstring and CO to top of RBP. COOH. PU 5-1/2" RTTS & RBP setting tool & GBIH on 3-1/2" x 2-7/8" workstring. Reset RBP @ ±2530'. Test to RBP to 500 psi. COOH & LD 5-1/2" RTTS.

23. PU 7" RTTS & GIH on workstring. Test tubing in hole to 5000 psi. Set RTTS @ ±2340'. Swab to clean up new Metex perfs.

24. Service company to acidize Metex perfs at 2390'-2507' with 1600 gals 7-1/2% NEFe HCl acid containing fines suspension agents and clay stabilizers. Divert with 45 1.3 sg RCN ball sealers, as follows:

a. Pressure test lines to 4000 psi. Load annulus, if possible, and monitor casing pressure throughout treatment for any indication of communication.
b. Establish pump-in rate with produced water. If rate of 5 BPM cannot be established, release pkr and spot 200 gals 15% HCl with fines suspension agents and stabilizers across perfs. Reset pkr and bullhead acid to break down perfs.
c. Pump 320 gals 7-1/2% NEFe HCl acid.
d. Pump 960 gals 7-1/2% NEFe HCl acid, dropping 45 balls spaced evenly.
e. Pump 320 gals 7-1/2% NEFe HCl acid.
f. Flush to 2507' with produced water.

Maximum Treating Pressure = 3500 psi
Maximum Treating Rate = 5 BPM

25. Release pkr. Knock ball sealers from perfs at 2390'-2507'. Reset pkr at ±2340'. Swab back load from Metex perfs.

26. Service company to fracture treat Metex perfs at 2390'-2507' with 20,000 gals polyemulsion (2/3 lease crude and 1/3 30 lb gelled 2% KCl water with non-ionic emulsifier) carrying 67,000 lbs 16/30 mesh Vulcan Texsan sand, as follows:

Note: Review the six Notes listed in step 10, page 3.

a. Test all lines to 4000 psi. Install pressure relief valve on treating line and set it to relieve at 4000 psi. Load annulus, if possible, and monitor casing pressure throughout job for any indication of communication.
b. Pump 6500 gals polyemulsion as pad.
c. Pump 1000 gals with 2 ppg of 16/30 mesh sand.
d. Pump 2000 gals with 3 ppg of 16/30 mesh sand.
e. Pump 2500 gals with 4 ppg of 16/30 mesh sand.
f. Pump 3000 gals with 5 ppg of 16/30 mesh sand.
g. Pump 3000 gals with 6 ppg of 16/30 mesh sand.
h. Pump 2000 gals with 8 ppg of 16/30 mesh sand.
i. Flush to 2290' (RTTS depth) with 1/4 polyemulsion and 3/4 gelled water. **DO NOT OVERFLUSH.**
j. SI, record ISIP, then flow back within 30 seconds of pump shutdown. Monitor for closure, and continue to flow at a maximum rate of 10 gal/min for 30 minutes after fracture closure. After closure, flow at a maximum rate of 1/2 bbl/min until well dies.

Maximum Treating Pressure = 3500 psi
Maximum Treating Rate = 15 BPM

Minimum Inventory to Have on Location Prior to Treatment:

* 80,500 lbs Vulcan Texsan 16/30 sand.
* Frac tanks with 15,582 gals (371 bbls) lease crude.
* Frac tanks with 7,938 gals (189 bbls) gelled water.
* Firefighting equipment, sample bottles, and Fann 35 viscometer to be supplied by service company.

27. COOH with RTTS & workstring. LD RTTS & GBIH with workstring and CO to top of RBP. COOH. PU 5-1/2" RBP setting tool & GBIH & retrieve 5-1/2" RBP. COOH. PU 7" RBP & RTTS & GIH on 3-1/2" workstring. Test tubing in hole to 5000 psi. Set RBP @ ±2360'. Test to RBP to 500 psi. Reset RTTS @ ±2260'. Swab to clean up new Loco Hills perfs.

28. Service company to acidize Loco Hills perfs at 2311'-2328' with 700 gals 7-1/2% NEFe HCl acid containing fines suspension agents and clay stabilizers, diverting with 27 1.3 sg RCN ball sealers, as follows:

a. Pressure test lines to 4000 psi. Load annulus & pressure to 500 psi. Monitor casing pressure throughout treatment for any indication of communication.
b. Establish pump-in rate with produced water. If rate of 5 BPM cannot be established, release pkr and spot 200 gals 15% HCl with fines suspension agents and stabilizers across perfs. Reset pkr @ 2200' and bullhead acid to break down perfs.
c. Pump 140 gals 7-1/2% NEFe HCl acid.
d. Pump 420 gals 7-1/2% NEFe HCl acid, dropping 27 balls spaced evenly.
e. Pump 140 gals 7-1/2% NEFe HCl acid.
f. Flush to 2328' with produced water.

Maximum Treating Pressure = 3500 psi
Maximum Treating Rate = 5 BPM

29. Release pkr. Knock ball sealers from perfs at 2260'-2274'. Reset pkr at ±2210'. Swab back load from Loco Hills perfs.

30. Service company to fracture treat Loco Hills perfs at 2311'-2328' with 13,500 gals polyemulsion (2/3 lease crude and 1/3 30 lb gelled 2% KCl water with non-ionic emulsifier), carrying 37,000 lbs 20/40 mesh Vulcan Texsan sand, as follows:

Note: Review the six Notes listed in step 10, page 3.

a. Test all lines to 4000 psi. Install pressure relief valve on treating line and set it to relieve at 4000 psi. Pressure annulus to 500 psi with produced water and maintain during treatment for any indication of communication.
b. Pump 4500 gals polyemulsion as pad.
c. Pump 500 gals with 1 ppg of 20/40 mesh sand.
d. Pump 1000 gals with 2 ppg of 20/40 mesh sand.
e. Pump 1500 gals with 3 ppg of 20/40 mesh sand.
f. Pump 2000 gals with 4 ppg of 20/40 mesh sand.
g. Pump 2000 gals with 5 ppg of 20/40 mesh sand.
h. Pump 2000 gals with 6 ppg of 20/40 mesh sand.
i. Flush to 2210' (RTTS depth) with 1/4 polyemulsion and 3/4 gelled water. **DO NOT OVERFLUSH.**
j. SI, record ISIP, then flow back within 30 seconds of pump shutdown. Monitor for closure, and continue to flow at a maximum rate of 1/2 bbl/min until well dies.

Maximum Treating Pressure = 3500 psi
Maximum Treating Rate = 15 BPM

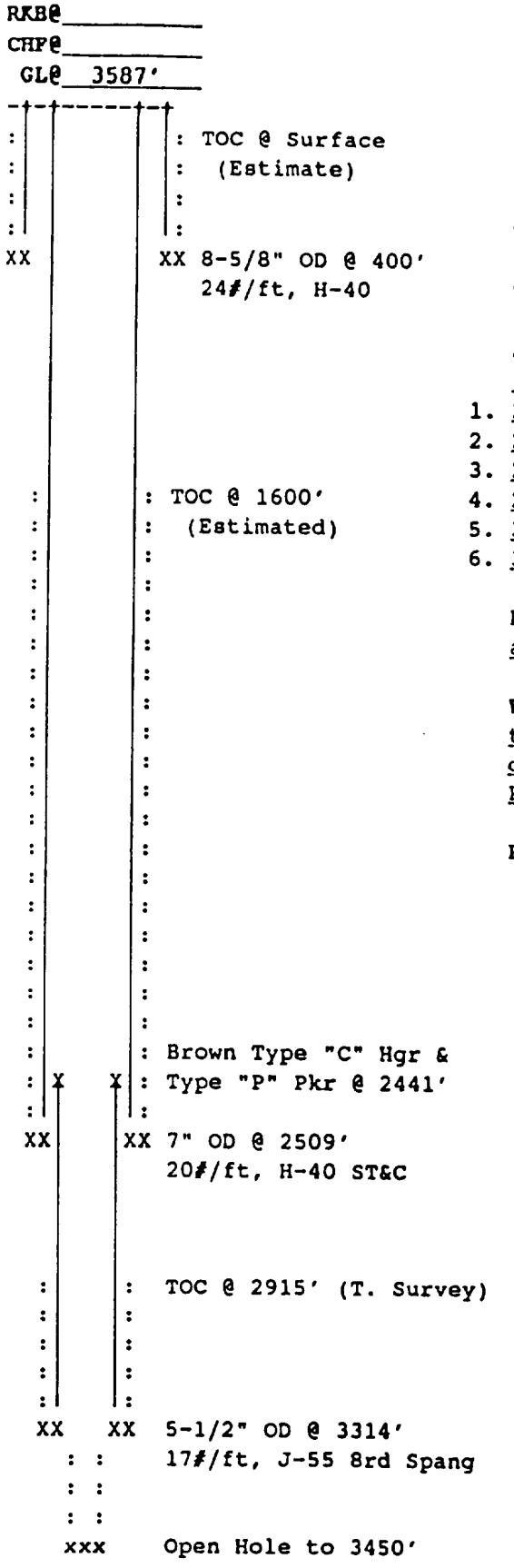
Minimum Inventory to Have on Location Prior to Treatment:

* 44,500 lbs Vulcan Texsan 20/40 sand.
* Frac tanks with 10,206 gals (243 bbls) lease crude.
* Frac tanks with 5,544 gals (132 bbls) gelled water.
* Firefighting equipment, sample bottles, and Fann 35 viscometer to be supplied by service company.

31. COOH with RTTS & workstring. LD RTTS & GBIH with workstring and CO to top of RBP. COOH. PU 7" RBP setting tool & GBIH & retrieve RBP. COOH & LD RBP. GBIH with workstring & clean out to TD, if necessary. COOH & LD workstring.

32. PU 2-3/8" production string. Remove BOP and run rods and pump. Place well on production & report daily tests on DDR.

PHILLIPS PETROLEUM COMPANY--PERMIAN BASIN REGION



Area North Date: March 20, 199?

Subarea Loco Hills

Lease & Well No. Keely "B" Fed. #1 NOT A CATEGORY WELL

Legal Description 660' FNL & 1980' FEL, Section 26, T-17-S & R-29-E, Eddy County, New Mexico

Field Grayburg-Jackson

Status Pumping 1.3 BO, 8.4 BW & 1.3 MCF (Test 10-29-88)

Tubing: 2-3/8", 4.7# J-55 @ 3362'

Packer: None

Tubing Head: 7" x 2" Larkin Hinderliter Type R

Stimulation History:

	Interval	Date	Type	Gallons	Lbs. Sd	MP	ISIP	IR
1.	2509'-2918'	4/43	acid	500	---	?	?	?
2.	2509'-2918'	4/43	acid	1000	---	?	?	?
3.	2509'-2918'	4/56	acid	2000	---	?	?	?
4.	2509'-2918'	4/56	acid	3500	---	?	?	?
5.	3314'-3450'	9/57	20%	1500	---	1400	?	1.8
6.	3314'-3450'	9/57	FRAC	34000	54,000	2800	1500	29

Hole/Casing Condition: As shown. Drilled 1943. Deepened and set 5-1/2" casing in 1957.

Workover Proposal: Squeeze cement behind the 5-1/2" casing to isolate proposed producing sections. Stimulate existing open hole and add new pay in the San Andres, Jackson, Premier, Metex and Loco Hills.

Recommended Procedure: See Attached.

	5-1/2" 17#/ft J-55	7", 20# H-40
ID	4.892"	6.456"
Drift	4.767"	6.331"
Collapse	4,630 psi	1,860 psi
Burst	4,980 psi	2,550 psi
Tension	153,000 lbs	117,000 lbs

	2-3/8" 4.7#, J-55	3-1/2" 9.3#, N-80	2-7/8" 6.5#, N-8C
ID	1.995"	2.992"	2.441"
Drift	1.901"	2.867"	2.347"
OD Cplg	3.063"	4.500"	3.668"
Collapse	7,040 psi	9,160 psi	9,710 psi
Burst	6,290 psi	7,950 psi	8,270 psi
Tension	47,700 lbs	133,700 lbs	93,500 lbs