1 Well File

Submit to Appropriate
District Office
State Lease – 6 copies
Fee Lease – 5 copies

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240

DISTRICT II
P.O. Drawer DD, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

Form C-101
Revised 1-1-89

API NO. (assigned by OCD on New Wells) 30-031-20956

5. Indicate Type of Lease STATE ☐ FEE ☒

6. State Oil & Gas Lease No.

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work:
DRILL ☒ RE-ENTER ☐ DEEPEN ☐ PLUG BACK ☐

b. Type of Well:
OIL WELL ☒ GAS WELL ☐ OTHER SINGLE ZONE ☒ MULTIPLE ZONE ☐

7. Lease Name or Unit Agreement Name: San Lucas

2. Name of Operator: Merrion Oil & Gas Corporation

8. Well No.: 1 40

3. Address of Operator: P. O. Box 840, Farmington, New Mexico

9. Pool name or Wildcat: Wildcat Hospah Gallup

4. Well Location
Unit Letter G : 2115 Feet From The North Line and 2070 Feet From The East Line

Section 25 Township 14N Range 8W NMPM McKinley County

10. Proposed Depth	11. Formation	12. Rotary or C.T.
1100'	Hospah	Rotary

13. Elevations (Show whether DF, RT, GR, etc.)	14. Kind & Status Plug. Bond	15. Drilling Contractor	16. Approx. Date Work will start
7058' GR	Nationwide	Not chosen	July, 1991

17. PROPOSED CASING AND CEMENT PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEMENT	EST. TOP
9-3/4"	7"	23 lb/ft	100 ft.	50 sx	Surface
6-1/4"	4-1/2"	10.5 lb/ft	1100 ft.	150 sx	Surface

Propose to drill a vertical well into the Cretaceous Hospah. If productive, will set 4-1/2" casing thru and cement in place. Additional details are attached.

APPROVAL EXPIRES 1-24-92
UNLESS DRILLING IS COMMENCED.
SPUD NOTICE MUST BE SUBMITTED
WITHIN 10 DAYS.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: IF PROPOSAL IS TO DEEPEN OR PLUG BACK, GIVE DATA ON PRESENT PRODUCTIVE ZONE AND PROPOSED NEW PRODUCTIVE ZONE. GIVE BLOWOUT PREVENTER PROGRAM, IF ANY.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Steven S. Dunn TITLE Operations Manager DATE 7/23/91

TYPE OR PRINT NAME Steven S. Dunn TELEPHONE NO.

(This space for State Use)

APPROVED BY Ernie Busch TITLE DEPUTY OIL & GAS INSPECTOR, DIST. #3 DATE 7-24-91 JUL 24 1991

CONDITIONS OF APPROVAL, IF ANY:

Submit to Appropriate
District Office
State Lease - 4 copies
Fee Lease - 3 copies

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State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised 1-1-89

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

Operator	Lease	Well No.
Merrion Oil & Gas Corporation	San Lucas	1

Unit Letter	Section	Township	Range	County
G	25	14N	8W NMPM	Mckinley

Actual Footage Location of Well:
2115 feet from the North line and 2070 feet from the East line

Ground level Elev.	Producing Formation	Pool	Dedicated Acreage:
7058'	Hospah GALLUP	Wildcat	40 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

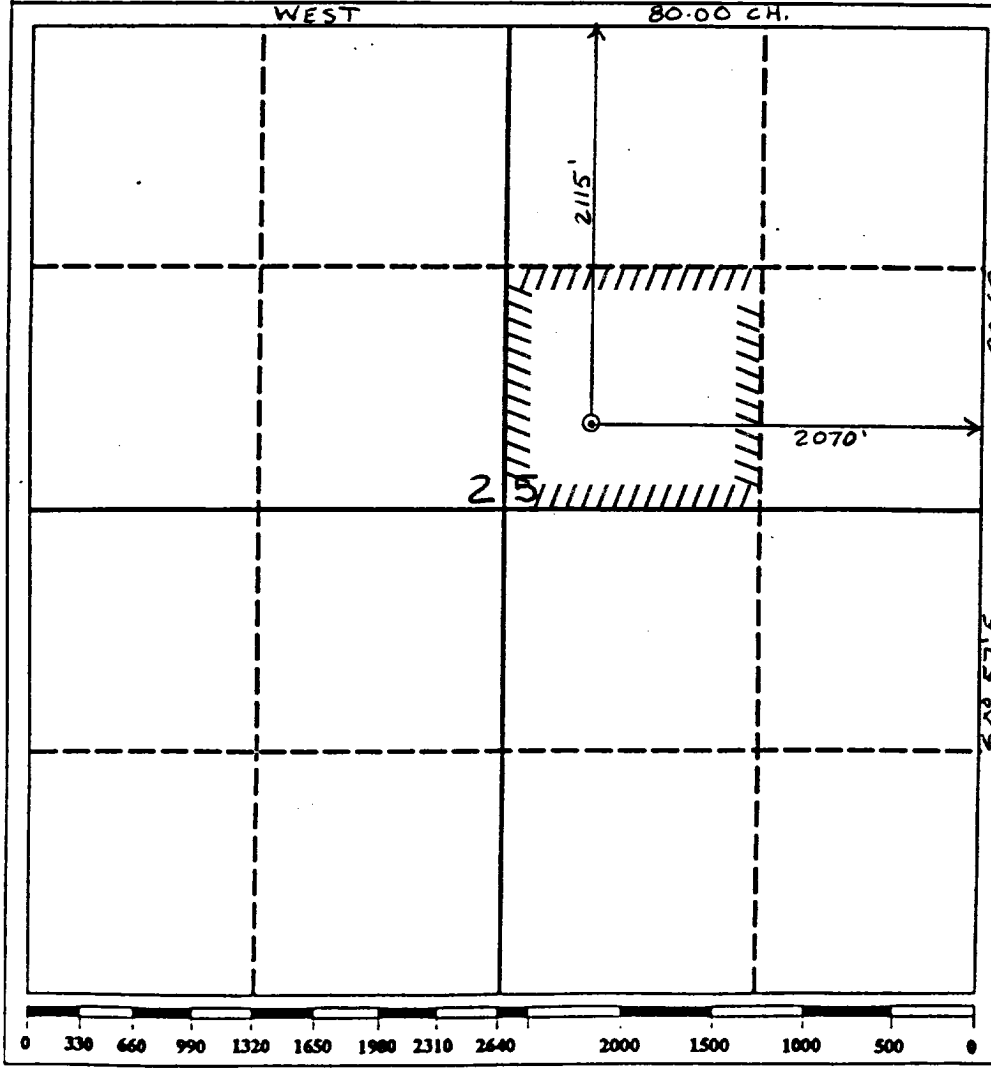
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

3. If more than one lease of different ownership is dedicated to the well, have the interest of all owners been consolidated by communitization, unitization, force-pooling, etc.?

☐ Yes ☐ No If answer is "yes" type of consolidation _____

If answer is "no" list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary. _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interest, has been approved by the Division.



OPERATOR CERTIFICATION

I hereby certify that the information contained herein in true and complete to the best of my knowledge and belief.

Signature

Printed Name
Steven S. Dunn

Position
Operations Manager

Company
Merrion Oil & Gas Corp.

Date
7/23/91

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervison, and that the same is true and correct to the best of my knowledge and belief.
7/18/91

Date Surveyed
Roy A. Rush

Signature & Seal of Professional Surveyor
ROY A. RUSH NEW MEXICO 8894 REGISTERED PROFESSIONAL LAND SURVEYOR

Certificate No.
8894

MERRION OIL & GAS CORPORATION

DRILLING TECHNICAL PROGRAM

ATTACHMENT TO FORM 3160-3

SAN LUCAS NO. 1
2115' FNL & 2070' FEL
Section 25, T14N, R8W
McKinley County, New Mexico

1. SUMMARY INFORMATION — Attached

2. PROJECT OVERVIEW: — Attached

3. DETAILED OPERATIONS PLAN: — Attached

4. ESTIMATED FORMATION TOPS — Attached

5. WELL CONTROL SYSTEM

   A. Proposed blowout preventer system (schematic drawings attached) is series 900 double ram with choke and kill manifold. Request waiver of requirement for annular BOP on the basis it is not needed to safely drill.

   B. Minimum required working pressure rating for BOP stack is 2000 psi.

   C. BOP pressure testing will be conducted at time of installation and prior to drillout of surface casing shoe. The BOP's will be activated at minimum on each trip for a bit and recorded in driller's log.

6. DRILLING MUD PROGRAM

   A. Surface hole will be drilled with fresh water - gel system, lime added to provide viscosity as needed.

   B. 6-1/4" hole will be drilled into the Hospah utilizing a low solids, non-dispersed gel-water mud system. Additives such a starch, cmc, soda ash and others will be used to control mud characteristics as necessary.

      Lost circulation materials will be stored on location, as necessary, for use in restoring lost circulation.

INTERVAL		MUD SYSTEM	WEIGHT #/GAL	VISCOSITY SEC/QT	WATER LOSS CC
Vert	0 - 240'	GEL-LIME	9.0	35-45	NA
Vert	240'-1100'±	GEL-WTR ND	8.4-9.0	28-45	≤ 12

C. Mud trip monitoring will be done visually.

7. HAZARDS

A. No abnormal pressure is anticipated. However, Min 2 M BOPs be used under surface casing to total depth. Formation pressure at total depth is ≈ 1050 psi. Water hydrostatic is 1500 psi.

B. Lost circulation is not expected.

C. No H_2S is expected to be encountered. However, should H_2S be found during drilling, detection and warning equipment will be installed.

D. Unintentional hole deviation is not expected to be a problem. Single shot surveys giving hole inclination will be run a minimum of every 500 feet.

8. LOGGING AND TESTING

A. An IES Induction Log will be run from TD to surface. A Compensated Density Log will be run to cover zones of interest. A Sonic Log may be run, if needed.

B. A drill stem test may be run to test the Hospah formation.

C. No core is anticipated.

D. Plans call for using a mud logging unit during drilling.

I. Summary Information

Well Name	:	San Lucas No. 1
Surface Location	:	2115'fnl & 2070'fel (SWNE) Sec 25, T14N, R8W McKinley Co., NewMexico
Elevations	:	7,062' RKB est. 7,058' GL
Total Depth	:	**1,100' MD RKB**
Well Objective	:	Hospah Sandstone...Primary
Rigs		
Drilling	:	Unknown
Completion	:	Ram Rig No. 1
Estimated Rig Arrivals		
Drilling	:	July, 1991
Completion	:	August, 1991
Estimated Time on Well		
Build Access & Location	:	1 days
Drill Vertical	:	5 days (if dst included)
Completion	:	7 days

II. Project Overview

The project objective is to drill the San Lucas No. 1 well to develop the Hospah formation in a stratigraphically controlled trap delineated through surface geology and offset drilling.

Plans call for drilling a vertical 6 1/4" hole to a depth of 1,100' or below the top of the Hospah formation. The Hospah may be drill stem tested if drilling and mudlog shows warrant. Finally, open hole surveys will be run. If the Hospah is productive, 4 1/2" casing will be run to total depth and cemented in place. Once the 4 1/2" casing is set, the drilling rig will be released.

A completion rig will move on, clean out the well. The pay interval will be perforated and fracture stimulated if necessary. The well will be tested to clean up, then the required production equipment will be run in the well.

IV. Detailed Operations Plan

A. Well Drilling

1. General Remarks

The well drilling phase will be conducted by drilling with conventional mud to total depth. A drillstem test of the Hospah formation may be conducted prior to drilling the necessary rathole, after which logs will be run and 4 1/2" casing will be cemented in place.

2. Formation Tops

Formation	Depth-MD	AMSL
Crevasse	Surface	+7,058'
Hosta	440'	+6,618'
Mancos	530'	+6,528'
Dilco	770'	+6,288'
Hospah sand	970'	+6,088'
Total Depth	1,100'	+5,958'

3. Hazards

No unusual drilling hazards are anticipated in this area.

4. Casing & Hole Program

	Interval	Hole Size	Csg OD	Wt lb/ft	Grade
I)	Surf- 100'	9 3/4"	7"	23	J-55
II)	100-TD	6 1/4"	4 1/2"	10.5	J-55

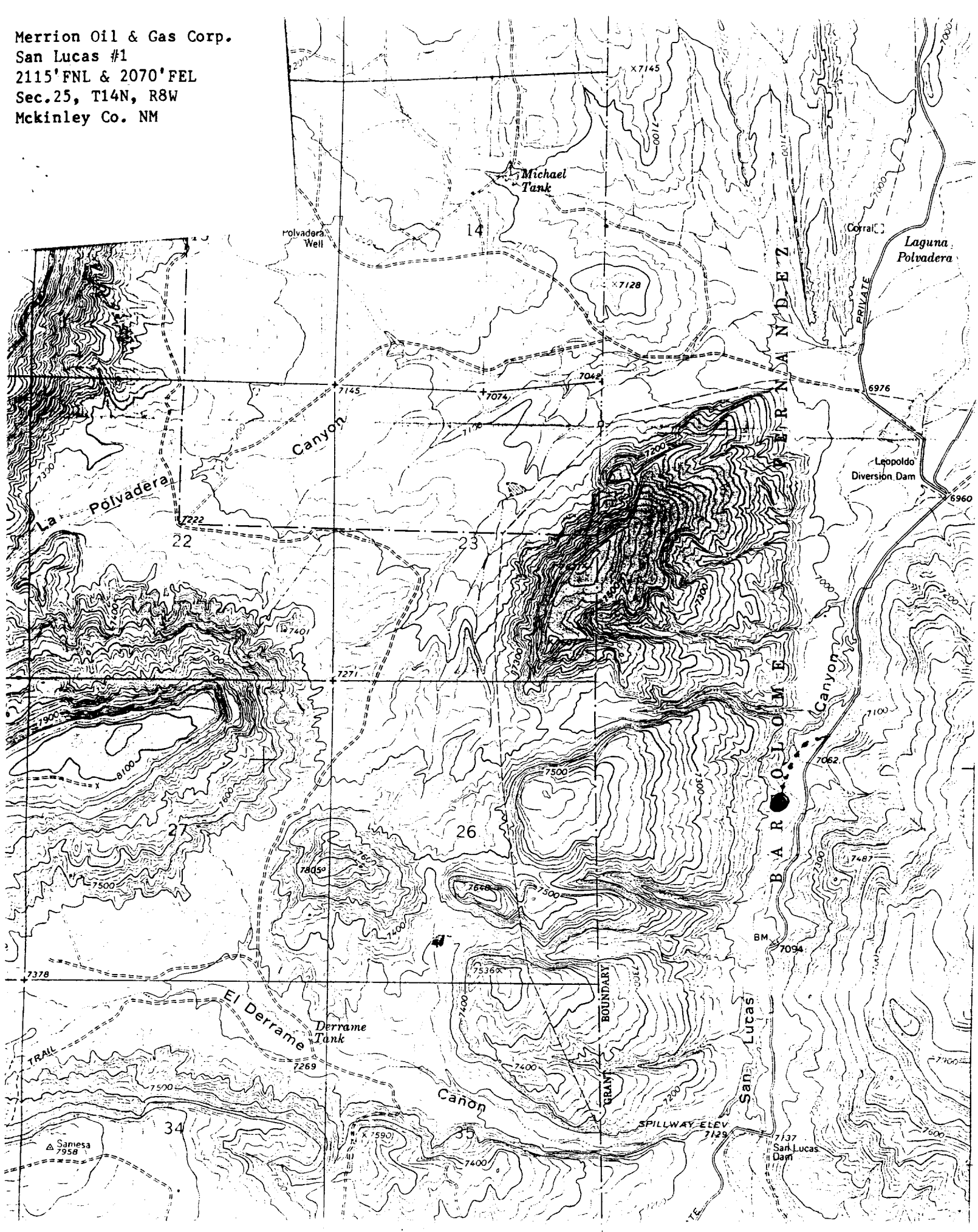
5. Procedure

1. Blade existing access. Build small location, line reserve pit if required.
2. MIRU Drilling rig.
3. Spud 9 3/4" hole. Drill to 100'KB. Condition hole. Take a survey.
4. Run 6 Jts of 7" 23lb/ft J-55 casing to 100'KB. Cement in place with 50 sx class "G", 1% $CaCl_2$ (TOC @ surface w/ 100% excess in gage hole).
   WOCT 10 hours, nipple up BOPs. Pressure test to 600 psi for 30 min after 8 hours WOCT.
5. Drill out with 6 1/4" bit, DCs and remaining drill string assembly. circulating fluid is non-dispersed gel base fluid with fluid loss control < 12cc.
6. Run SS surveys on bit trips minimum every 500 ft. If rate of build is 1° per 100 ft or more, run SS surveys minimum of 100 ft intervals.
7. RU mud logging unit out from under surface to provide hydrocarbon measurement and sample descriptions.
8. Stop drilling ~ 1,020'KB, if Hospah DST warranted.
9. Run DST test of Hospah if desired as follows:

10-15 Min	Initial Flow Period
60 Minute	Initial Shut-in Period
60 Minute	Final Flow Period
120 Minute	Final Shut-in Period

   POH with DST string.
10. RIH, drill to TD @ ~1,100'KB. Condition for logs. POH.
13. Run OH IES Induction and Formation Density surveys. RD loggers.
14. Deliver 4 1/2" 10.5lb/ft J-55 casing to location. Tally and drift all casing upon arrival. Clean all pins and collars with diesel and wire brush.
15. Pickup 4 1/2" casing shoe. Make it up to one 4 1/2" shoe joint. Install one casing centralizer on the shoe jt. Set assembly in the slips.
16. Pick up a self fill or equivalent float collar and make it up to the shoe joint.
17. RIH w/ 4 1/2" 10.5lb casing, place centralizers on every other collar. Use total 6 centralizers.
18. Circulate last joint down. Circulate minimum 1 full circulation prior to cementing.
19. RU cementers and cement while reciprocating 4 1/2"" csg slowly. Pump 150sx class 'G', 2% gel, yield 1.22 cuft/sx (183 cuft). Actual cement volumes will be adjusted using hole caliper log to bring cement to surface.
20. Bump plug. Release pressure.
21. Set casing in the slips as cemented. Cut off and place a protective cover over the casing stub.
22. Release drilling rig.

Merrion Oil & Gas Corp.
San Lucas #1
2115'FNL & 2070'FEL
Sec.25, T14N, R8W
Mckinley Co. NM



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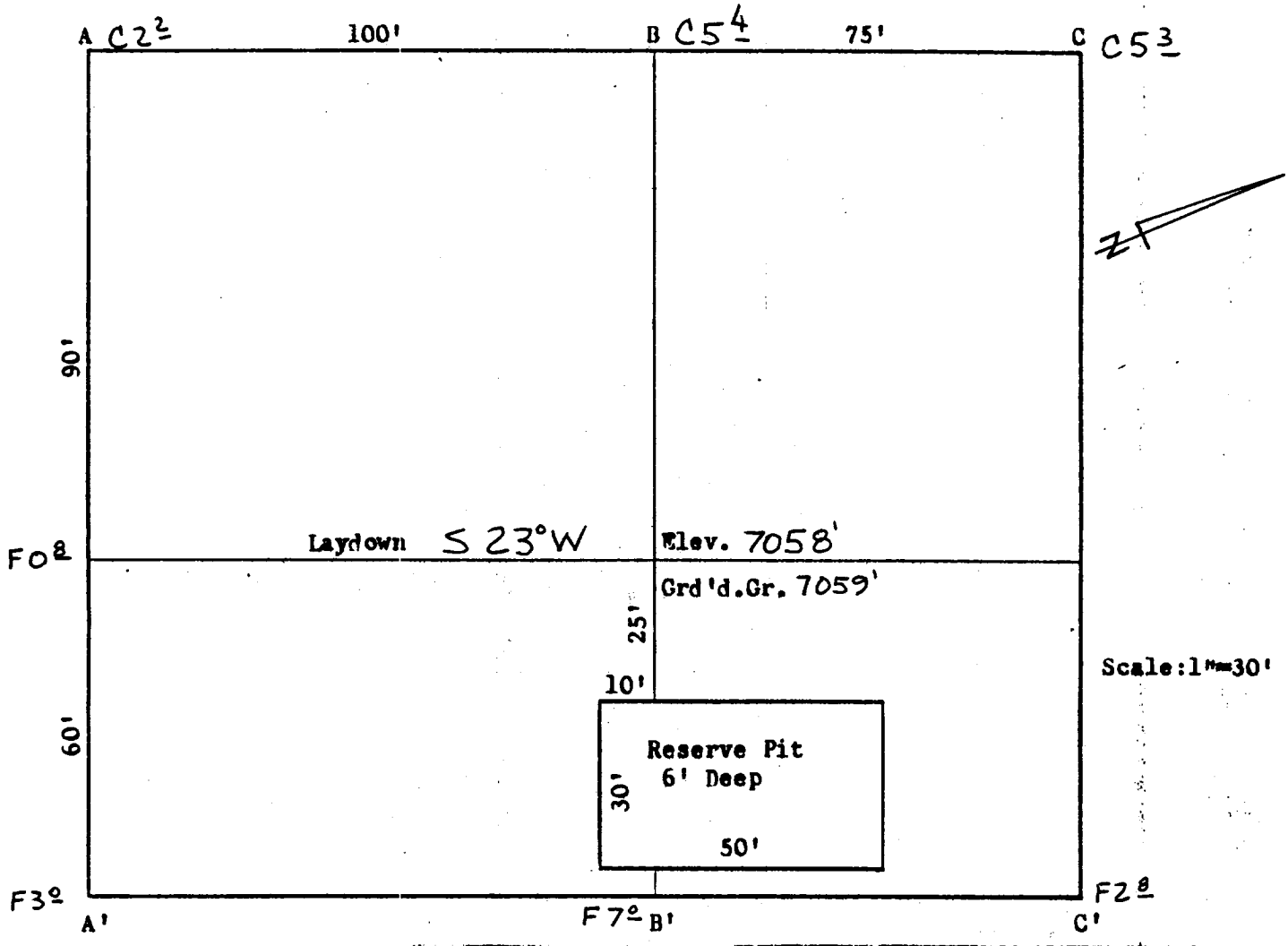

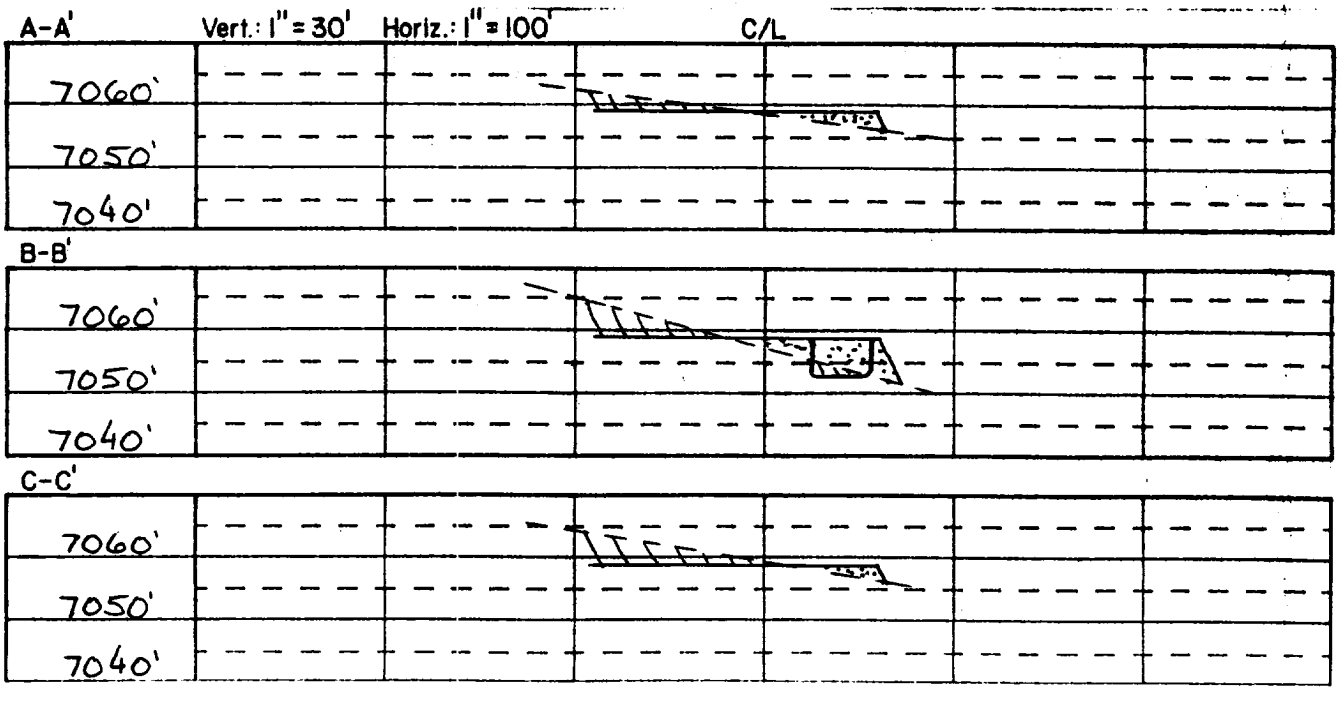

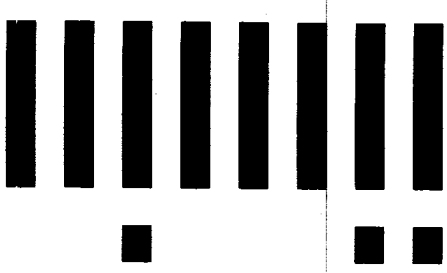

LTR

Job separation sheet

STATE OF NEW MEXICO

ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

AZTEC DISTRICT OFFICE

1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO 87410
(505) 334-6178

DATE: 1-27-92

Merrion Oil & Gas Corp.

P.O. Box 840 ATTN: Lisa

Farmington, NM 87401

RE: San Lucas #1 G-25-14N-8W

The Application to Drill for the referenced well has expired.

Please send a sundry requesting an extension of time to drill or a cancellation.

If you have any questions, please call this office.

Sincerely,

Tech.

xc: Well File