

PROPOSED WATERFLOOD UNIT BOUNDARY

BEFORE EXAMINATION

OIL & GAS PRODUCTION

Hanson 13

10685 & 10686

Unit, M Bbls
Prod. Zones

- YATES
- 7 RIVERS
- QUEEN
- PENROSE
- GRAYBURG
- MID-GRAYBURG

0 1/4 1/2 1 MILE
SCALE



HANSON OPERATING COMPANY, INC.

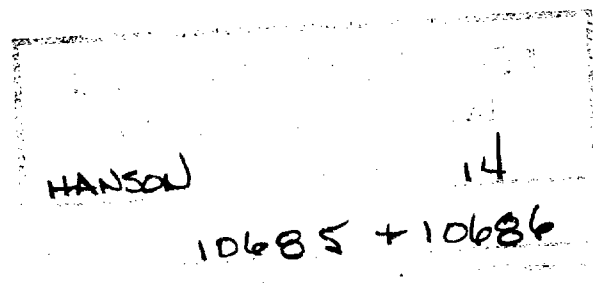
P.O. BOX 1515

ROSWELL, NEW MEXICO 88203-1515

BENSON SHUGART
SR-QN-GRYB PRODUCTION
WITH PERMEABILITY LIMITS

HANSON
PROPOSED WATERFLOOD UNIT
SHUGART FIELD
EDDY COUNTY, NEW MEXICO

FEASIBILITY STUDY
FOR A PROPOSED WATERFLOOD
SHUGART FIELD
EDDY COUNTY, NEW MEXICO



FEASIBILITY STUDY FOR A PROPOSED WATERFLOOD OF
CERTAIN PROPERTIES OPERATED BY
HANSON OPERATING COMPANY, INC.,
SIETE OIL AND GAS CORPORATION, AND
YATES PETROLEUM CORPORATION
IN THE SHUGART FIELD
EDDY COUNTY, NEW MEXICO
EFFECTIVE MAY 1, 1990
UTILIZING NONESCALATED ECONOMICS
PROJECT 9.7098

FEASIBILITY STUDY FOR A PROPOSED WATERFLOOD OF
CERTAIN PROPERTIES OPERATED BY
HANSON OPERATING COMPANY, INC.,
SIETE OIL AND GAS CORPORATION, AND
YATES PETROLEUM CORPORATION
IN THE SHUGART FIELD
EDDY COUNTY, NEW MEXICO
EFFECTIVE MAY 1, 1990
UTILIZING NONESCALATED ECONOMICS
PROJECT 9.7098

PREPARED FOR
HANSON OPERATING COMPANY, INC.
SIETE OIL & GAS CORPORATION
YATES PETROLEUM CORPORATION

JULY 29, 1992
WILLIAMSON PETROLEUM CONSULTANTS, INC.

Williamson Petroleum Consultants, Inc.

HOUSTON

July 29, 1992

MIDLAND

Hanson Operating Company, Inc.
400 North Penn, Suite 1200
Roswell, New Mexico 88201
Attention Mr. Ray Willis

Siete Oil & Gas Corporation
Petroleum Building, Suite 200
Roswell, New Mexico 88202
Attention Mr. Harold Nustice

Yates Petroleum Corporation
105 South 4th Street
Artesia, New Mexico 88210
Attention Mr. David F. Boneau

Gentlemen:

Subject: Feasibility Study for a Proposed Waterflood of
Certain Properties Operated By
Hanson Operating Company, Inc.,
Siete Oil and Gas Corporation, and
Yates Petroleum Corporation
in the Shugart Field
Eddy County, New Mexico
Effective May 1, 1990
Utilizing Nonescalated Economics
Project 9.7098

Williamson Petroleum Consultants, Inc., in conjunction with the engineering subcommittee for the proposed Shugart Waterflood Unit, has performed an engineering evaluation to estimate proved reserves and future net revenue from oil and gas properties to the subject interests. This evaluation was authorized by Mr. Ray Willis of Hanson Operating Company, Mr. Eddie Rodriguez of Siete Oil & Gas Corporation, and Mr. David F. Boneau of Yates Petroleum Corporation. Projections of the reserves and future net revenue to the evaluated interests were based on economic parameters and operating conditions considered applicable as of May 1, 1990. This evaluation includes various economic and/or engineering considerations which are outside the guidelines of the Securities and Exchange Commission (SEC) for disclosing reserves and future net revenue in Form 10-K or other SEC filings. Following is a summary of the results of the evaluation effective May 1, 1990:

310 WEST WALL AVENUE

SUITE 1200

MIDLAND, TEXAS

79701-5121

915 685 6100

FAX 915 685 3909

Hanson Operating Company, Inc.
Mr. Ray Willis
July 29, 1992
Page 2

	<u>TOTAL PROVED</u>
Net Reserves to the Evaluated Interests:	
Oil/Condensate, BBL	1,200,346
Other Liquids, BBL	0
Gas, MCF	332,097
Future Net Revenue, \$:	
Undiscounted	10,036,070
Discounted Per Annum at 10.00 Percent	4,415,555

The attached Definitions describe all categories of reserves, and the attached report describes the bases of this evaluation.

It has been a pleasure to serve you by preparing this engineering evaluation. All related data will be retained in our files and are available for your review.

Yours very truly,

Williamson Petroleum Consultants, Inc.
WILLIAMSON PETROLEUM CONSULTANTS, INC.

PHD/lab

Attachments

Project 9.7098

hm02

C O N T E N T S

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C O N T E N T S

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DEFINITIONS OF OIL AND GAS RESERVES

PROVED RESERVES

Proved reserves are the estimated quantities of crude oil, natural gas, and natural gas liquids which geological and engineering data demonstrate with reasonable certainty to be recoverable in future years from known reservoirs under the economic criteria employed and existing operating conditions. Prices include consideration of changes in existing prices provided by contractual arrangements and escalations based upon an estimate of future conditions.

A. Reservoirs are considered proved if economic producibility is supported by either actual production or conclusive formation test. The area of a reservoir considered proved includes:

1. that portion delineated by drilling and defined by gas-oil and/or oil-water contacts, if any; and
2. the immediately adjoining portions not yet drilled, but which can be reasonably judged as economically productive on the basis of available geological and engineering data. In the absence of information on fluid contacts, the lowest known structural occurrence of hydrocarbons controls the lower proved limit of the reservoir.

B. Reserves which can be produced economically through application of improved recovery techniques (such as fluid injection) are included in the "proved" classification when successful testing by a pilot project, or the operation of an installed program in the reservoir, provides support for the engineering analysis on which the project or program was based.

C. Estimates of proved reserves do not include the following:

1. oil that may become available from known reservoirs but is classified separately as "indicated additional reserves";
2. crude oil, natural gas, and natural gas liquids, the recovery of which is subject to reasonable doubt because of uncertainty as to geology, reservoir characteristics, or economic factors;
3. crude oil, natural gas, and natural gas liquids, that may occur in undrilled prospects; and
4. crude oil, natural gas, and natural gas liquids, that may be recovered from oil shales, coal¹, gilsonite and other such sources.

¹ excluding certain coalbed methane gas

² Williamson Petroleum Consultants, Inc. separates proved developed reserves into proved developed producing and proved developed nonproducing reserves. This is to identify proved developed producing reserves as those to be recovered from actively producing wells. Proved developed nonproducing reserves as those to be recovered from wells or intervals within wells, which are completed but shut in waiting on equipment or pipeline connections, or wells where a relatively minor expenditure is required for recompletion to another zone.

Proved Developed Reserves²

Proved developed reserves are reserves that can be expected to be recovered through existing wells with existing equipment and operating methods. Additional oil and gas expected to be obtained through the application of fluid injection or other improved recovery techniques for supplementing the natural forces and mechanisms of primary recovery should be included as "proved developed reserves" only after testing by a pilot project or after the operation of an installed program has confirmed through production response that increased recovery will be achieved.

Proved Undeveloped Reserves

Proved undeveloped reserves are reserves that are expected to be recovered from new wells on undrilled acreage, or from existing wells where a relatively major expenditure is required for recompletion. Reserves on undrilled acreage shall be limited to those drilling units offsetting productive units that are reasonably certain of production when drilled. Proved reserves for other undrilled units can be claimed only where it can be demonstrated with certainty that there is continuity of production from the existing productive formation. Under no circumstances should estimates for proved undeveloped reserves be attributable to any acreage for which an application of fluid injection or other improved recovery technique is contemplated, unless such techniques have been proved effective by actual tests in the area and in the same reservoir.

UNPROVED RESERVES

Unproved reserves are based on geologic and/or engineering data similar to that used in estimates of proved reserves; but technical, contractual, economic, or regulatory uncertainties preclude such reserves being classified as proved.

Probable Reserves

Probable reserves are estimated quantities of crude oil, natural gas, and natural gas liquids which are indicated by geological and engineering data to exist, but which are subject to an element of uncertainty such that they do not meet the criteria of the proved reserve category.

Possible Reserves

Possible reserves are estimated quantities of crude oil, natural gas, and natural gas liquids which are inferred to exist, but where available geological and engineering data will not support a higher classification.

DISCUSSION

I. INTRODUCTION

This evaluation is submitted by Williamson Petroleum Consultants, Inc. (Williamson) to the three operators of the proposed Shugart Penrose-Middle Grayburg Waterflood Unit which produces from the Shugart (Yates Seven Rivers Queen Grayburg) Pool located in Eddy County, New Mexico. The three principle working interest owners are Hanson Operating Company, Inc. (Hanson), Siete Oil and Gas Corporation (Siete), and Yates Petroleum Corporation (Yates).

The report presents a study of the feasibility of installing a fluid injection project and describes the proposed unit area, its reserves, and associated economics of secondary operations. The study also includes parameters which may be employed to aid in unitization.

II. SUMMARY AND CONCLUSIONS

The Shugart Penrose-Middle Grayburg Unit will encompass 1520 surface acres containing 30 wells which have produced from the Penrose formation of which 22 wells have also produced from the Middle Grayburg formation. The combined remaining primary from all producing reservoirs and secondary reserves from the Penrose and Middle Grayburg formations as of May 1, 1990 were 1,500,430 gross barrels of oil and 415,121 MCF of gas. An economic analysis of the remaining primary and secondary reserves indicates that an undiscounted net revenue before Federal Income Taxes of \$10,036,070 will be obtained during the projected 19 years of unitized secondary operations. The investment cost for this project as estimated by Hanson, Siete, and Yates is \$1,557,770.

The southeastern part of the unit contains 14 wells that have produced principally from the Seven Rivers formation. It is recommended

that a one well pilot injection project be initiated to test the floodability of the Seven Rivers formation. No secondary reserves from the Seven Rivers were included in the economic analysis.

The Yates, Queen, and Upper Grayburg have been tested in various wells scattered within the proposed unit boundary. The Yates was perforated and fraced in only one well which swabbed only one barrel of fluid per hour at a 95 percent water cut. The Queen was perforated and tested in four wells and the Upper Grayburg in six wells. These tests have yielded only small amounts of free oil. Detailed analysis of the well records establishes that the Yates, Queen, and Upper Grayburg have contributed very little to oil recovery within the unit area. No secondary reserves have been included for these reservoirs.

A structure map of each of the six formations are attached as Figures VI A through VI F.

III. REMARKS

a) Shugart Penrose-Middle Grayburg Unit.

The proposed Shugart Penrose-Middle Grayburg Unit is located six miles south and two miles east of the community of Loco Hills in Eddy County, New Mexico as shown in Figure I. Geologically, the field is a stratigraphic trap associated with localized structural nosing. The unitized interval will include the entire Shugart (Yates Seven Rivers Queen Grayburg) Pool; however, water injection will be limited to the Penrose and Middle Grayburg formations. The Penrose is found at an average depth of 3240 feet and the Middle Grayburg approximately 250 feet deeper at 3490 feet. The proposed unit boundary is shown on Figure II.

The Shugart Pool was discovered on May 6, 1938; however, the first Shugart Pool well within the proposed unit boundary was a re-entry of the Keinath Well No. 1 on April 30, 1961. The first phase of drilling within the unit was completed in 1964 after drilling 12 wells. Drilling was resumed in 1969 through 1973 when 21 wells were completed. Drilling of the remaining wells was scattered from 1974 until the last well was completed in 1989. The proposed unit area contains 25 usable wells in the Penrose-Middle Grayburg Area of which nine wells in the northeast part of the unit will be completed only in the Penrose interval. Figure III and IV show the recommended and alternate injection patterns for the Penrose-Middle Grayburg waterflood and for the Seven Rivers waterflood. Figure III also shows the ultimate primary recovery and the primary producing formations for each well. The nine wells that will be limited to waterflooding only the Penrose can be determined from the identifying producing zones shown on Figure III. A type log that identifies the correlative formation tops is attached as Figure V. The unitized interval will be that correlative interval between 1800 feet and 3500 feet beneath the surface of the ground as found in the Hanson Oil Company - Ginsberg Federal Well No. 13 located 1650 feet FNL and 1800 feet FEL of Section 26, Township 18S, Range 30E in Eddy County, New Mexico. Structure maps based on formation tops of each of the formations in the unitized pool are presented on Figures VI A through VI F.

Cumulative oil production as of May 1, 1990 was 1,564,107 barrels of oil from the proposed Shugart Penrose-Middle Grayburg Unit area. The average production rate as of May 1, 1990 was 2600 barrels of oil per month for an average of 86 barrels of oil per calendar day.

b) Shugart (Seven Rivers) Unit.

The Seven Rivers is the predominant producing formation in the southeast part of the unit. It is isolated such that it could be classified as a separate unit. The Seven Rivers has been included with the Queen and Grayburg in most waterfloods in the immediate area but has not been tested separately for potential secondary response. Figure III shows the primary recovery from the Seven Rivers is substantially less than the Penrose and Middle Grayburg formations. Since the most prolific Seven Rivers wells are located in the western part of the Seven Rivers productive area, it is reasonable to test the floodability of the Seven Rivers by converting the Siete-Ute Federal Well No. 1 to injection and observing response in the three offsetting producing wells. A successful pilot may warrant expansion of the Seven Rivers waterflood to the east. A pressurized water supply could be arranged through a purchase agreement with the Shugart Penrose-Middle Grayburg Unit. Unitization of the Seven Rivers would permit commingling Seven Rivers production into common facilities for fair and equitable distribution to working interest owners based on participation derived from Seven Rivers parameters. A structure map on top of the Seven Rivers pay was prepared and is included as Figure VI B. Since the Seven Rivers is regarded as a pilot waterflood at this time, the remainder of this report will be devoted to the Penrose and Middle Grayburg formations.

IV. PRIMARY PERFORMANCE

The ultimate primary recovery from the proposed Shugart Penrose-Middle Grayburg Unit is 1,777,771 barrels. The primary reserves as of May 1, 1990 were 213,664 barrels indicating the unit area to be 88.0 percent depleted of its primary reserves. These reserves were determined

by extrapolation of the established production decline for each active well using 30 barrels of oil per month as the economic limit. The economics associated with the remaining primary were not calculated since recent improvements in production on certain leases were not representative of field performance. It was also concluded that the currently active wells would be near their economic limit by the time a waterflood would be initiated.

V. SECONDARY RECOVERY OPERATIONS

It was originally anticipated that the Shugart Penrose-Middle Grayburg Unit would be operational by the end of 1990; however, current activity indicates the earliest that injection could commence would be in 1993. Unit area reserves as of that effective date were 1,500,430 barrels of oil which is a summary of the remaining primary reserves plus secondary reserves. Secondary reserves were calculated using a 1:1 secondary to primary ratio in the swept area which is equivalent to a 72.4 percent secondary to primary ratio for the project. This compares favorably with the results obtained from a study of seven nearby mature waterfloods. The projection of production by unitized secondary operations is shown graphically in Figure VII. It is estimated that response will begin one year after injection is commenced. Production is projected to increase during the following two years and then held constant for two years at a rate of 15,000 barrels of oil per month. Secondary production is then expected to decline at 15.0 percent per year to its economic limit of 1,600 barrels of oil per month. This projected production profile is consistent with analogous waterfloods in the immediate vicinity. Unit operations will yield net revenues of \$10,036,070 or \$4,415,555 discounted at 10.00 percent per annum. Table 4A, 4B, and 4C provide the basic data

and the reserves and economics for the remaining primary plus secondary reserves using a May 1, 1990 effective date.

The 5-spot water injection pattern shown in Figure III is recommended for the Penrose-Middle Grayburg. The alternate pattern presented in Figure IV contains less closed patterns and has a less uniform pattern geometry and size. Examination of offsetting wells indicate the proposed unit to be reasonably isolated from other Penrose-Middle Grayburg completions that have significant cumulative production. Other offsetting wells have ceased to produce. Based on this examination, it is doubtful that lease line agreements will be required to prevent significant migration of secondary reserves from the proposed unit area. Well data sheets have been provided each operator that summarize all information contained in each well file including detailed test information obtained during completion and correlated formation tops. Stick diagram cross sections were constructed and given to each operator to identify the correlative pay zones and to insure each floodable zone is perforated in both the producing and injection wells.

The investment cost for the water injection facilities and system are estimated to be \$1,131,400. The initial producing well workover cost were scheduled over a three year period at a total cost of \$426,370. Although the plant is designed to also furnish injection water for the Seven Rivers pilot, the remainder of the cost to implement and expand the pilot was deleted in the above cost estimate. The plant is designed to inject 300 barrels of water per day initially into 14 wells and can be expanded to 17 wells if the Seven Rivers pilot is successful. It is

anticipated that make-up water will be supplied from the City of Carlsbad Eagle Water System.

VI. PARAMETERS

The Engineering Subcommittee tabulated as Table 1 parameters by waterflood zone by operator and a total of both zones by operator as follows:

- 1.) Current Oil Production, July through December 1989
- 2.) Current Gas Production, July through December 1989
- 3.) Oil Cumulative, July 1, 1989
- 4.) Gas Cumulative, July 1, 1989
- 5.) Primary Oil Reserves, July 1, 1989
- 6.) Primary Gas Reserves, July 1, 1989
- 7.) Primary Oil Ultimate
- 8.) Primary Gas Ultimate
- 9.) Secondary Oil Ultimate
- 10.) Producing Wells, January 1, 1990
- 11.) Useable Wells, January 1, 1990
- 12.) Productive Acreage

Table 2 lists each of the above parameters as a percent of the unit total. Tables 3A through 3H reflect the percentages, by operator, of each parameter shown in Table 2, weighted in convenient increments from 100 percent to five percent as an aid in calculating each operators overall participation under any formula proposed by the working interest owners for adaption.

VII. RECOMMENDATIONS

The Engineering Subcommittee has recommended the following:

- 1.) That the Shugart Unit be formed as shown in Figure II for the purposes of waterflooding the Penrose and Middle Grayburg formations.
- 2.) That a five-spot injection pattern be utilized for the Penrose and Middle Grayburg formations but that injection be limited to the Penrose formation in the five northeast injection wells as indicated in Figure III.
- 3.) That injection be limited to those zones in the Penrose and Middle Grayburg formation that are shown in the stick diagrams (not included in this report) to be correlative and continuous pay zones.
- 4.) That a second but integral Shugart Unit be formed as a pilot waterflood to test the floodability of the Seven Rivers formation to include the SW/4 Section 30, T18S, R31E and the SE/4 and the E/4 of the SW/4 Section 25, T18S, R30E.
- 5.) That Ute-Federal Well No. 1 be converted to injection such that Seven Rivers waterflood response can be tested from three directions.
- 6.) Separate production facilities be maintained for the Seven Rivers area.
- 7.) That the participation formula be negotiated for division of production from the Seven Rivers area.

VIII. GENERAL EVALUATION COMMENTS BY WILLIAMSON

The attached individual projection of unit reserves and economics (Tables 4A, 4B, and 4C) include data that describe the production forecasts and associated evaluation parameters such as interests, taxes, product prices, operating costs, and investments.

Net income to the evaluated interests is the future net revenue after consideration of royalty revenue payable to others, taxes, operating expenses, and investments, as applicable. The future net revenue is before federal income tax and excludes consideration of any encumbrances against the properties if such exist.

The future net revenue values presented in this report were based on projections of oil and gas production. It was assumed there would be no significant delay between the date of oil and gas production and the receipt of the associated revenue for this production.

The future net revenue was discounted at an annual rate of 10.00 percent as requested by Hanson, Siete, and Yates. Future net revenue was also discounted at secondary rates of 8.00, 12.00, 15.00, 18.00, and 20.00 and percent per annum. These additional discounted amounts are displayed as totals only. The future net revenue was discounted at the midpoint of the period, compounded annually. Capital costs were discounted at the time they occurred and were compounded annually.

This report includes only those costs and revenues which are considered by Hanson, Siete, and Yates to be directly attributable to individual leases and areas. There could exist other revenues, overhead costs, or other costs associated with Hanson, Siete, or Yates which are not included in this report. Such additional costs and revenues are outside the scope of this report. This report is not a financial statement for Hanson, Siete, or Yates and should not be used as the sole basis for any transaction concerning Hanson, Siete, or Yates or the evaluated properties.

The reserves projections in this evaluation are based on the use of the available data and accepted industry engineering methods. Future changes in any operational or economic parameters or production characteristics of the evaluated properties could increase or decrease their reserves. Unforeseen changes in market demand or allowables set by various regulatory agencies could also cause actual production rates to vary from those projected. The date of first response from waterflooding was based on estimates by Hanson, Siete, and Yates or Williamson and the actual dates may vary from those estimated. Williamson reserves the right to alter any of the reserves projections and the associated economics included in this evaluation in any future evaluations based on additional data that may be acquired.

Williamson is an independent consulting firm and does not own any interests in the oil and gas properties covered by this report. No employee, officer, or director of Williamson is an employee, officer, or director of Hanson, Siete, or Yates. Neither the employment of nor the compensation received by Williamson is contingent upon the values assigned to the properties covered by this report.

Oil and gas reserves were evaluated for the proved developed producing and proved undeveloped categories. In preparing this evaluation, no attempt has been made to quantify the element of uncertainty associated with any category. The attached Definitions describe all categories of reserves (Figure VIII).

Oil reserves are expressed in United States (U.S.) barrels of 42 U.S. gallons. Gas volumes are expressed in thousands of cubic feet (MCF)

at 60 degrees Fahrenheit and at the legal pressure base that prevails in the state in which the reserves are located. No adjustment of the individual gas volumes to a common pressure base has been made.

All data utilized in the preparation of this report with respect to interests, reversionary status, oil and gas prices, gas categories, gas contract terms, operating expenses, investments, well information, and current operating conditions, as applicable, were provided by the operators. All data have been reviewed for reasonableness and, unless obvious errors were detected, have been accepted as correct. It should be emphasized that revisions to the projections of reserves and economics included in this report may be required if the provided data are revised for any reason. No inspection of the properties was made as this was not considered within the scope of this evaluation.

Hanson, Siete, and Yates represented to Williamson that they have, or can generate, the financial and operational capabilities to accomplish the evaluated project.

Unless specifically identified and documented by Hanson, Siete, and Yates as having curtailment problems, gas production trends have been assumed to be a function of well productivity and not of market conditions. The effect of "take or pay" clauses in gas contracts was not considered.

The estimates of reserves contained in this report were determined by accepted industry methods and in accordance with the attached Definitions of Oil and Gas Reserves. Methods utilized in this report

include extrapolation of historical production trends and analogy to similar properties.

Where sufficient production history and other data were available, reserves for producing properties were determined by extrapolation of historical production trends. Analogy to similar properties was used for assignment of secondary reserves. Reserves projections based on analogy are subject to change due to subsequent changes in the analogous properties or subsequent production from the evaluated properties.

A three-character reserves grading code was assigned to each lease in this report. It is displayed on the List of Properties (Table 4A). It also appears on the lease reserves and economics pages (Table 4B and 4C). This code indicates a new property or the relative value of the property when previously evaluated, the type of engineering analysis used, and the quality factor associated with the reserves projection. A legend explaining this code appears on the List of Properties. The quality factor is a subjective measurement of the overall confidence in the projection of reserves based on such factors as availability of data, engineering methodology used, and experience with similar wells.

An oil price of \$16.48 per barrel was provided by Hanson, Siete, and Yates to be used at the effective date. After the effective date, prices were held constant for the life of the properties. No attempt has been made to account for oil price fluctuations which have occurred in the market subsequent to the effective date of this report.

A gas price of \$1.31 per MCF was provided Hanson, Siete, and Yates by to be used at the effective date. After the effective date, prices were held constant for the life of the properties.

It should be emphasized that with the current economic uncertainties, fluctuation in market conditions could significantly change the economics in this report.

Operating expenses were provided by Hanson, Siete, and Yates and were based on the latest available 12-month average of all recurring expenses which are billable to the working interest owners. These expenses included, but were not limited to, all direct operating expenses and field overhead costs. Any internal indirect overhead cost (general and administrative) which are not billable to the working interest owners were not included. Expenses for workovers, well stimulations, and other maintenance were not included in the operating expenses unless such work was expected on a recurring basis. The expense of the initial workover on each producing and injection well was considered as an investment cost. Judgements for the exclusion of the nonrecurring expenses were made by Hanson, Siete, and Yates. Secondary operating cost for producing wells were projected to be \$1500 per well per month or approximately twice that of producing wells during primary operations. Injection well cost were assessed to be \$800/well/month. The economic limit for calculating the remaining primary reserves for each property was determined using 30 barrels of oil/well/month. Operating costs were held constant for the life of the properties.

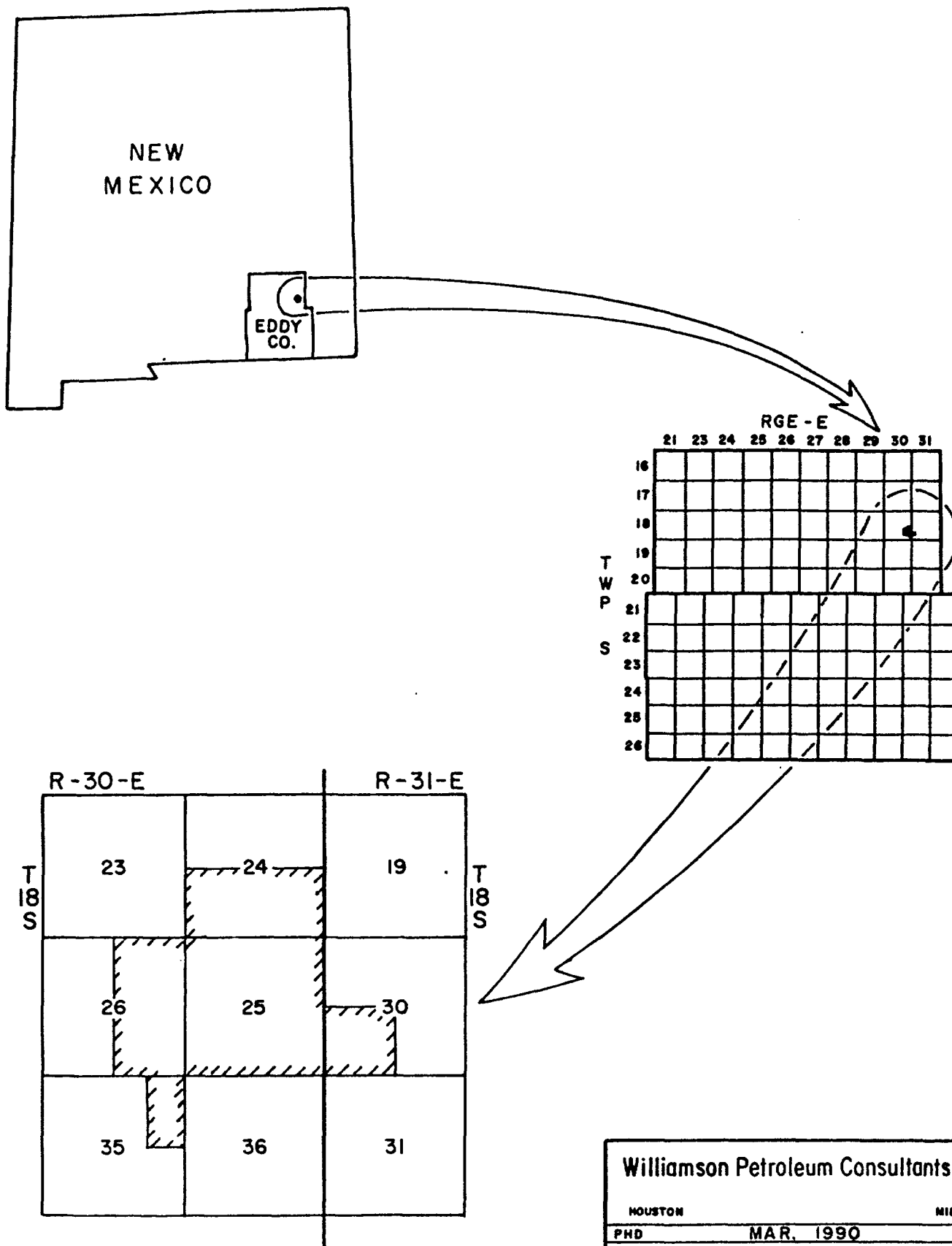
State production taxes have been deducted at the published rates as appropriate. Average county ad valorem taxes were also deducted.

All capital costs for drilling and completion of wells, and nonrecurring workover costs have been deducted as applicable. These costs were provided by Hanson, Siete, and Yates. No adjustments were made to account for the potential effect of inflation on these costs.

Neither salvage values nor abandonment costs were provided by Hanson, Siete, and Yates to be included in this evaluation.

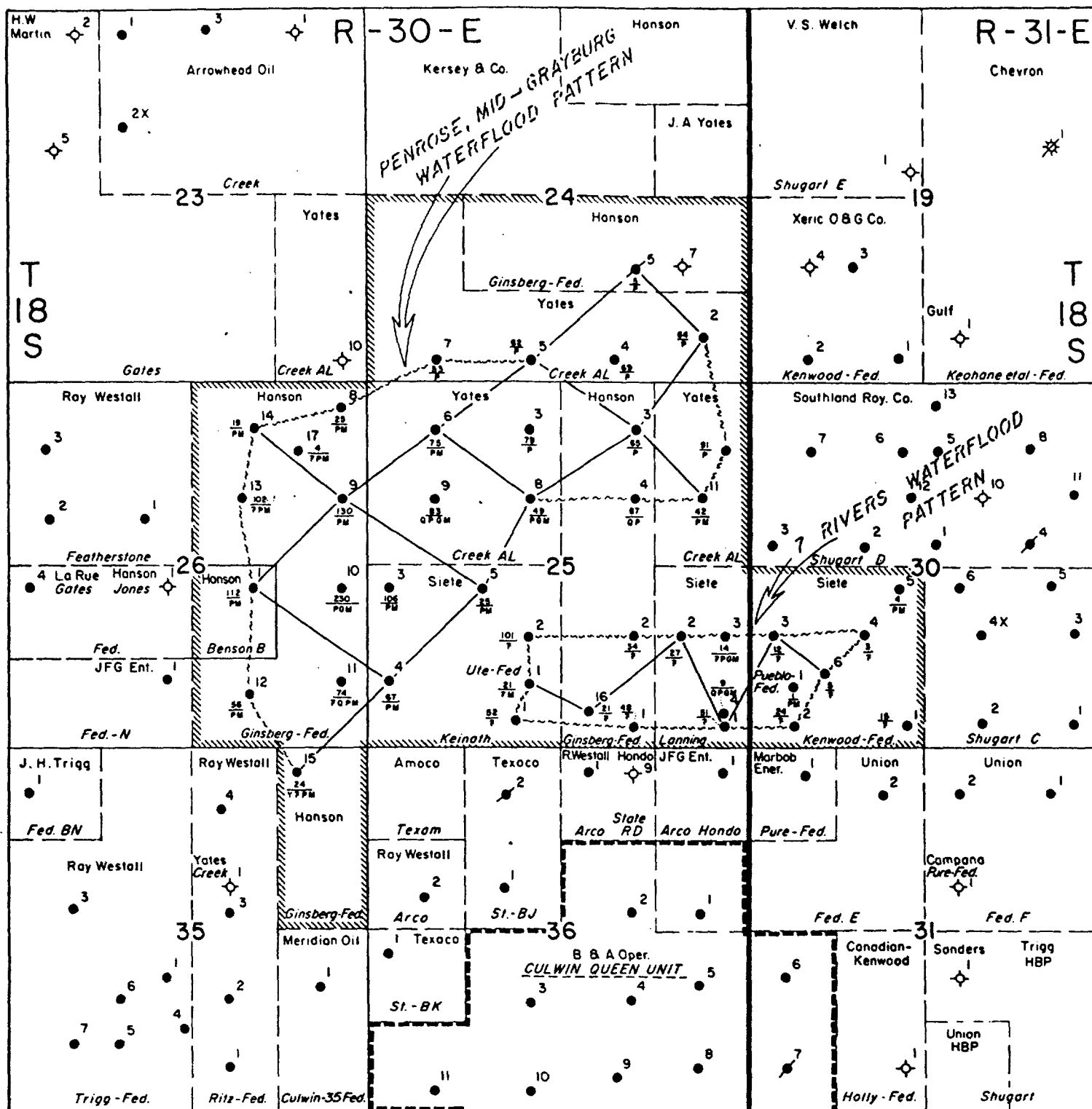
Project 9.7098

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Williamson Petroleum Consultants, Inc.		
HOUSTON		MIDLAND
PHD	MAR. 1990	9.7098
UNIT LOCATION PLAT		
HANSON-SIETE-YATES		
PROPOSED WATERFLOOD UNIT		
SHUGART FIELD		
EDDY COUNTY, NEW MEXICO		

FIGURE I



Williamson Petroleum Consultants, Inc.

HOUSTON MIDLAND

PHD MAR 1990 9 7098

ALTERNATE INJECTION PATTERN

PENROSE, MID-GRAYBURG

SEVEN RIVERS

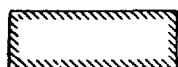
HANSON-SIETE-YATES

PROPOSED WATERFLOOD UNIT

SHUGART FIELD

EDDY COUNTY, NEW MEXICO

FIGURE IV

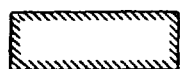


A horizontal scale bar labeled "SCALE" with markings at 0, 1/4, 1/2, and 1 MILE.

EDDY COUNTY, NEW MEXICO

FIGURE VIA

FIGURE VI B



0 1/4 1/2 1 MILE

SCALE

WILLIAMSON PETROLEUM CONSULTANTS, INC.

17089445.P

PRINT: 06/12/92 16.13.05

FIELD OPERATOR SHUGART (PNR/MID.GBG)
OPERATOR HANSON-SIETE-YATES OPRS.

LEASE PNR/MID.GBC WFLD TR: Z10000
ST, CNTY NM, EDDY DIST: SE*O/C/-

11ST PROD
SOURCE

NUMBER WELLS: 23
Z-SUMMARY PROGRAM PG: 0010

JOB 9.7098 EFF.DATE: 05/01/90
FOR HANSON-SIETE-YATES

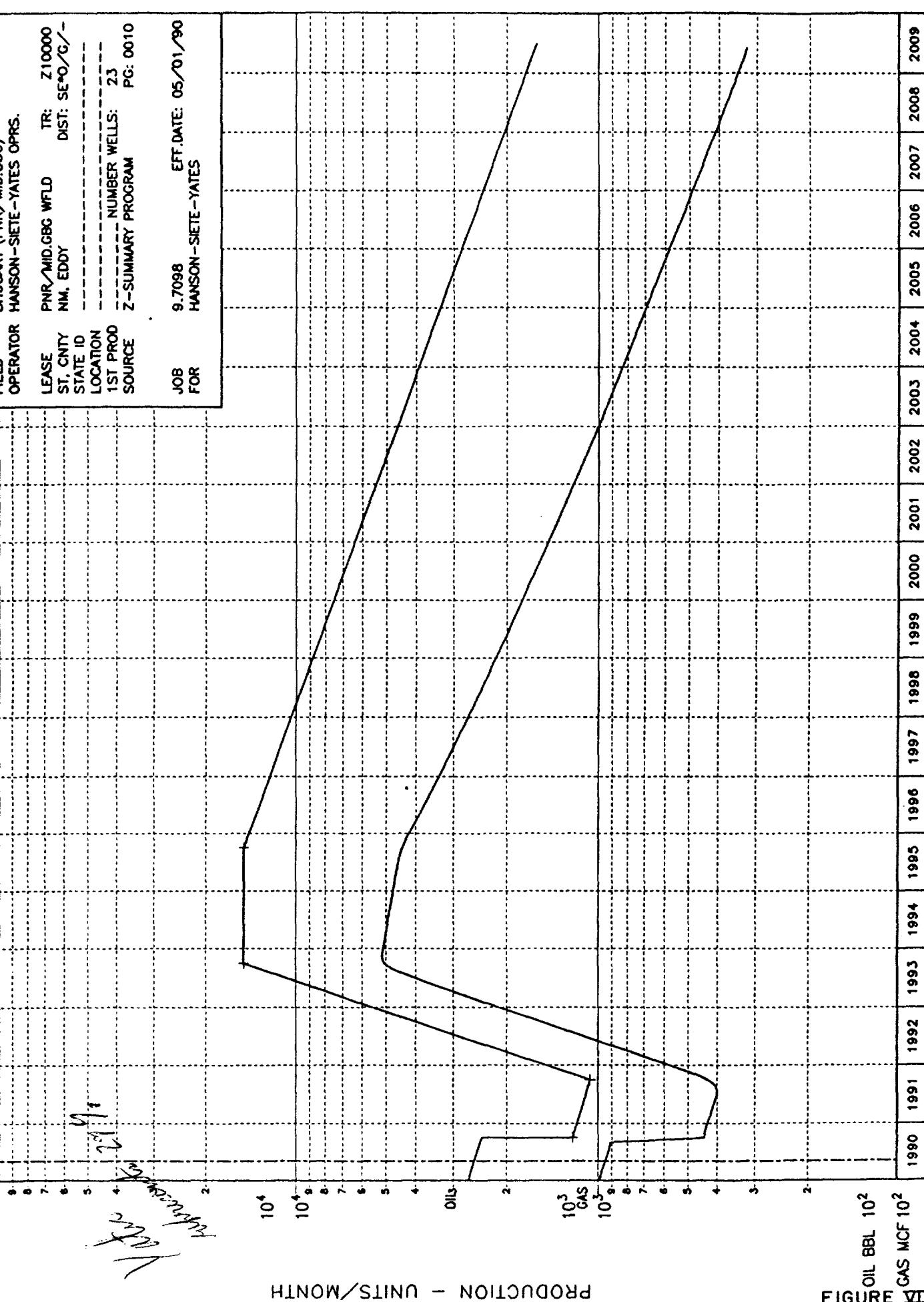


FIGURE VII

JOB 9.7098
05/25/90

HANSON-SIETE-YATES PROPOSED WATERFLOOD UNIT
SHUGART FIELD, EDDY COUNTY, NEW MEXICO
PARTICIPATION PARAMETERS LISTED BY WFLD ZONE, OPERATOR

PARAM-7098.WKS
TBL -1-7098.PRN
TABLE 1

OPERATOR LEASE NAME	WFLD ZONE	CURRENT OIL PROD 7-12/89	CURRENT GAS PROD 7-12/89	OIL CUM 07/01/89	GAS CUM 07/01/89	PRIMARY OIL RES 07/01/89	PRIMARY GAS RES 07/01/89	PRIMARY OIL U.T.	PRIMARY GAS U.T.	SECONDARY OIL U.T.	PRODUCING WELLS 01/01/90	USEABLE WELLS 01/01/90	PRODUCTIVE ACREAGE
HANSON OP. CO.													
BENSON, L.B. #1	PNR/ORG M	1,865	2,421	94,129	204,280	18,280	20,107	112,409	224,387	56,205	1	1	40
GINSEBERG #3-15,17	PNR/ORG M	9,355	3,834	651,182	823,373	147,793	71,013	798,975	894,386	641,379	11	11	440
TOTAL		11,220	6,255	745,311	1,027,653	166,073	91,120	911,384	1,118,773	697,583	12	12	480
SIETE O&G CORP.													
KEINATH #3-#5	PNR/ORG M	3,103	242	173,836	161,932	27,310	2,240	201,146	184,172	153,324	3	3	100
TOTAL		3,103	242	173,836	161,932	27,310	2,240	201,146	184,172	153,324	3	3	100
YATES PET. CORP.													
CREEK AL #1-#11	PNR/ORG M	3,370	0	618,958	563,954	46,283	0	665,241	563,954	435,859	5	10	400
TOTAL		3,370	0	618,958	563,954	46,283	0	665,241	563,954	435,859	5	10	400
ZONE TOTAL	PNR/ORG M	17,683	6,467	1,538,105	1,753,539	239,666	93,360	1,777,771	1,846,899	1,286,766	20	25	980
HANSON OP. CO.													
GINSEBERG #1,2,16	7 RYRS	1,544	1,701	81,049	61,244	22,041	25,222	103,090	86,466	48,982	3	3	80
TOTAL		1,544	1,701	81,049	61,244	22,041	25,222	103,090	86,466	48,982	3	3	80
SIETE O&G CORP.													
KEINATH #1, #2	7 RYRS	347	0	153,370	64,403	12	0	153,382	64,403	38,346	2	2	80
KENWOOD #1-#6	7 RYRS	338	0	60,980	31,837	2,265	0	63,265	31,837	18,351	4	6	160
LANNING #1-#4	7 RYRS	483	0	100,855	46,809	42	0	100,897	46,809	55,095	4	4	80
PUEBLO FED #1	7 RYRS	417	0	975	0	155	0	1,130	0	1,130	1	1	0
UTE FED #1	7 RYRS	0	0	0	0	20,633	0	20,633	0	10,332	0	1	0
TOTAL		1,585	0	316,190	142,049	23,137	0	339,327	142,048	123,253	11	14	300
ZONE TOTAL	7 RYRS	3,129	1,701	397,239	203,283	45,178	25,222	442,417	228,515	172,215	14	17	380
HANSON OP. CO.													
BENSON, L.B. #1	PNR/ORG M	1,865	2,421	94,129	204,280	18,280	20,107	112,409	224,387	56,205	1	1	40
GINSEBERG #1,2,16	7 RYRS	1,544	1,701	81,049	61,244	22,041	25,222	103,090	86,466	48,982	3	3	80
GINSEBERG #3-15,17	PNR/ORG M	9,355	3,834	651,182	823,373	147,793	71,013	798,975	894,388	641,379	11	11	440
TOTAL		12,764	7,956	826,360	1,088,987	188,114	116,342	1,014,474	1,206,238	746,545	15	15	560
SIETE O&G CORP.													
KEINATH #1, #2	7 RYRS	347	0	153,370	64,403	12	0	153,382	64,403	38,346	2	2	80
KEINATH #3-#5	PNR/ORG M	3,103	242	173,836	161,932	27,310	2,240	201,146	184,172	153,324	3	3	100
KENWOOD #1-#6	7 RYRS	338	0	60,980	31,837	2,265	0	63,265	31,837	18,351	4	6	160
LANNING #1-#4	7 RYRS	483	0	100,855	46,809	42	0	100,897	46,809	55,095	4	4	80
PUEBLO FED #1	7 RYRS	417	0	975	0	155	0	1,130	0	1,130	1	1	0
UTE FED #1	7 RYRS	0	0	0	0	20,633	0	20,633	0	10,332	0	1	0
TOTAL		4,688	242	480,026	303,981	50,447	2,240	540,473	308,221	276,577	14	17	400
YATES PET. CORP.													
CREEK AL #1-#11	PNR/ORG M	3,370	0	618,958	563,954	46,283	0	665,241	563,954	435,859	5	10	400
TOTAL		3,370	0	618,958	563,954	46,283	0	665,241	563,954	435,859	5	10	400
GRAND TOTAL	BOTH ZONES	20,822	8,198	1,935,344	1,958,832	284,844	118,582	2,220,188	2,075,414	1,458,981	34	42	1,380

TABLE 1

WILLIAMSON PETROLEUM CONSULTANTS, INC.
MIDLAND, TEXAS
PAUL H. DAVIS/CLL

NOTE: ALL OIL VOLUMES ARE EXPRESSED IN BARRELS.
ALL GAS VOLUMES ARE EXPRESSED IN MCF.

HANSON-SIETE-YATES PROPOSED WATERFLOOD UNIT
SHARPT FIELD, EDDY COUNTY, NEW MEXICO
PARTICIPATION PARAMETERS LISTED BY WFLD ZONE, OPERATOR
PERCENT OF UNIT TOTAL

OPERATOR LEASE NAME	WFLD ZONE	CURRENT OIL PROD 7-12/89 (PERCENT)	CURRENT GAS PROD 7-12/89 (PERCENT)	OIL QJM 07/01/89 (PERCENT)	GAS QJM 07/01/89 (PERCENT)	PRIMARY OIL RES 07/01/89 (PERCENT)	PRIMARY GAS RES 07/01/89 (PERCENT)	PRIMARY OIL U/LT (PERCENT)	PRIMARY GAS U/LT (PERCENT)	SECONDARY OIL U/LT (PERCENT)	PRODUCING WELLS 07/01/90 (PERCENT)	USEABLE WELLS 07/01/90 (PERCENT)	PRODUCTIVE ACREAGE (PERCENT)
HANSON OP. CO.													
BENSON, L.B. #1	PMR/GBG M	10.54089	37.28335	6.11990	11.84658	7.82728	21.53706	6.32303	12.14539	4.36789	5.00000	4.00000	4.08163
GINSBERG #3-15, 17	PMR/GBG M	52.87402	59.01185	42.33684	46.95494	61.88824	76.06363	44.94251	48.42637	49.84422	55.00000	44.00000	44.88786
TOTAL		63.41491	96.29520	48.45664	58.80152	69.71552	97.60069	51.26554	60.57176	54.21211	60.00000	48.00000	48.97859
SIETE O&G CORP.													
KEINATH #3-#5	PMR/GBG M	17.53801	3.72480	11.30186	9.23458	11.38502	2.38831	11.31451	8.88808	11.91545	15.00000	12.00000	10.20408
TOTAL		17.53801	3.72480	11.30186	9.23458	11.38502	2.38831	11.31451	8.88808	11.91545	15.00000	12.00000	10.20408
YATES PET. CORP.													
CREEK AL #1-#11	PMR/GBG M	18.04708	0.00000	40.24180	32.18080	19.31146	0.00000	37.41885	30.53518	33.87244	25.00000	40.00000	40.81633
TOTAL		18.04708	0.00000	40.24180	32.18080	19.31146	0.00000	37.41885	30.53518	33.87244	25.00000	40.00000	40.81633
ZONE TOTAL													
	PMR/GBG M	100.00000	100.00000	100.00000	100.00000	100.00000	100.00000	100.00000	100.00000	100.00000	100.00000	100.00000	100.00000
HANSON OP. CO.													
GINSBERG #1,2,16	7 R/RS	49.34484	100.00000	20.40308	30.12598	48.78702	100.00000	23.30155	37.83822	28.43083	21.42857	17.84708	21.05263
TOTAL		49.34484	100.00000	20.40308	30.12598	48.78702	100.00000	23.30155	37.83822	28.43083	21.42857	17.84708	21.05263
SIETE O&G CORP.													
KEINATH #1, #2	7 R/RS	11.08881	0.00000	38.80000	31.87989	0.02858	0.00000	34.88910	28.18327	22.28808	14.28571	11.76471	15.78848
KENWOOD #1-#6	7 R/RS	10.80217	0.00000	15.35348	15.68065	5.07891	0.00000	14.30438	13.83213	10.65602	28.57143	35.29412	42.10528
LANNING #1-#4	7 R/RS	15.43824	0.00000	25.38900	22.53348	0.02388	0.00000	22.80588	20.04638	31.99172	28.57143	23.52941	21.05263
PUEBLO FED #1	7 R/RS	13.32884	0.00000	0.24544	0.00000	0.34008	0.00000	0.25541	0.00000	0.65618	0.00000	5.88235	0.00000
UTE FED #1	7 R/RS	0.00000	0.00000	0.00000	0.00000	46.87048	0.00000	4.86370	0.00000	5.98918	0.00000	5.88235	0.00000
TOTAL		50.65516	0.00000	79.58882	89.87402	51.21288	0.00000	78.68845	62.18178	71.58917	78.57143	62.35294	78.94737
ZONE TOTAL													
	7 R/RS	100.00000	100.00000	100.00000	100.00000	100.00000	100.00000	100.00000	100.00000	100.00000	100.00000	100.00000	100.00000
HANSON OP. CO.													
BENSON, L.B. #1	PMR/GBG M	8.86887	29.53159	4.88388	10.43832	6.41785	16.95820	5.08304	10.81187	3.85231	2.94118	2.38085	2.94118
GINSBERG #1,2,16	7 R/RS	7.41524	20.74888	4.18783	3.12975	7.73782	21.28887	4.84330	4.18821	3.35591	8.82353	7.14286	5.88235
GINSBERG #3-15, 17	PMR/GBG M	44.82844	46.78751	33.84884	42.07884	51.88558	59.88514	35.98882	43.09434	43.98072	32.35294	28.18048	32.35294
TOTAL		61.30055	97.04808	42.88835	55.64591	66.04108	98.11101	45.88318	58.07222	51.18884	44.11785	35.71429	41.17848
SIETE O&G CORP.													
KEINATH #1, #2	7 R/RS	1.88851	0.00000	7.82489	3.29118	0.00421	0.00000	6.80851	3.10314	2.82824	5.88235	4.76191	4.41178
KEINATH #3-#5	PMR/GBG M	14.90251	2.85194	8.98217	8.27521	9.58770	1.88889	9.05886	7.91033	10.50888	8.82353	7.14286	7.35294
KENWOOD #1-#6	7 R/RS	1.82328	0.00000	3.15138	1.82887	0.80571	0.00000	2.85043	1.53401	1.25781	11.76470	14.28571	11.76471
LANNING #1-#4	7 R/RS	2.31988	0.00000	5.21122	2.34088	0.01475	0.00000	4.54483	2.20722	3.77623	11.76471	9.52381	5.88235
PUEBLO FED #1	7 R/RS	2.00288	0.00000	0.05038	0.00000	0.05442	0.00000	0.05080	0.00000	0.07745	2.94118	2.38085	0.00000
UTE FED #1	7 R/RS	0.00000	0.00000	0.00000	0.00000	7.24381	0.00000	0.98834	0.00000	0.98834	0.00000	2.38085	0.00000
TOTAL		22.51465	2.85194	25.31884	15.53434	17.71040	1.88889	24.34357	14.75470	18.95884	41.17847	40.47819	29.41178
YATES PET. CORP.													
CREEK AL #1-#11	PMR/GBG M	16.18480	0.00000	31.98181	28.81975	16.24854	0.00000	29.98327	27.17308	29.87422	14.70588	23.80852	29.41178
TOTAL		16.18480	0.00000	31.98181	28.81975	16.24854	0.00000	29.98327	27.17308	29.87422	14.70588	23.80852	29.41178
GRAND TOTAL													
	BOTH ZONES	100.00000	100.00000	100.00000	100.00000	100.00000	100.00000	100.00000	100.00000	100.00000	100.00000	100.00000	100.00000

NOTE: ALL OIL VOLUMES ARE EXPRESSED IN BARRELS.
ALL GAS VOLUMES ARE EXPRESSED IN MCF.

JOB 9.7098
05/25/90

PARAM-7098.WKS
TBL-3A-7098.PRM
TABLE 3-A

HANSON-SIETE-YATES PROPOSED WATERFLOOD UNIT
SHUGART FIELD, EDDY COUNTY, NEW MEXICO
PERCENT UNIT PARTICIPATION OF INDIVIDUAL PARAMETERS
AT VARIOUS PARAMETER WEIGHTS
HANSON OP. CO. - PENROSE/MIDDLE GRAYBURG WFLD ZONE

WEIGHTS (PERCENT)	CURRENT OIL PROD 7-12/89 (PERCENT)	CURRENT GAS PROD 7-12/89 (PERCENT)	OIL CUM 07/01/89 (PERCENT)	GAS CUM 07/01/89 (PERCENT)	PRIMARY OIL RES 07/01/89 (PERCENT)	PRIMARY GAS RES 07/01/89 (PERCENT)	PRIMARY OIL ULT (PERCENT)	PRIMARY GAS ULT (PERCENT)	SECONDARY OIL ULT (PERCENT)	PRODUCING WELLS 01/01/90 (PERCENT)	USEABLE WELLS 01/01/90 (PERCENT)	PRODUCTIVE ACREAGE (PERCENT)
100.000	63.415	98.275	48.458	58.605	89.294	97.801	51.268	80.578	54.212	80.000	48.000	48.980
90.000	57.073	86.848	43.611	52.744	82.384	87.841	46.139	54.518	48.791	54.000	43.200	44.082
80.000	50.732	77.020	38.785	46.884	55.435	78.081	41.012	48.481	43.370	48.000	38.400	39.184
75.000	47.581	72.206	36.342	43.953	51.870	73.201	38.448	45.432	40.858	45.000	38.000	38.735
70.000	44.390	67.383	33.920	41.023	48.505	68.320	35.888	42.403	37.948	42.000	33.800	34.286
68.687	42.277	64.183	32.304	39.070	46.196	65.087	34.177	40.384	36.141	40.000	32.000	32.853
60.000	38.049	57.766	29.074	35.163	41.576	58.580	30.759	36.345	32.527	36.000	28.800	29.368
50.000	31.707	48.138	24.228	29.302	34.847	48.800	25.633	30.288	27.108	30.000	24.000	24.480
40.000	25.368	38.510	19.383	23.442	27.717	39.040	20.508	24.230	21.885	24.000	19.200	19.592
33.333	21.138	32.082	16.152	19.535	23.098	32.534	17.089	20.192	18.071	20.000	16.000	16.327
30.000	19.024	28.883	14.537	17.581	20.788	29.280	15.380	18.173	16.284	18.000	14.400	14.694
25.000	15.854	24.069	12.114	14.851	17.323	24.400	12.816	15.144	13.553	15.000	12.000	12.245
20.000	12.883	19.255	9.691	11.721	13.859	19.520	10.253	12.115	10.842	12.000	9.800	9.798
10.000	6.341	9.828	4.846	5.880	8.829	9.780	5.127	6.058	5.421	6.000	4.800	4.898
5.000	3.171	4.814	2.423	2.830	3.485	4.880	2.583	3.028	2.711	3.000	2.400	2.449

TABLE 3 A

WILLIAMSON PETROLEUM CONSULTANTS, INC.
MIDLAND, TEXAS
PAUL H. DAVIS/QLL

NOTE: ALL OIL VOLUMES ARE EXPRESSED IN BARRELS.
ALL GAS VOLUMES ARE EXPRESSED IN MCF.

JOB 9.7098
05/25/90

HANSON-SIETE-YATES PROPOSED WATERFLOOD UNIT
SHUGART FIELD, EDDY COUNTY, NEW MEXICO
PERCENT UNIT PARTICIPATION OF INDIVIDUAL PARAMETERS
AT VARIOUS PARAMETER WEIGHTS
SIETE O&G CORP. - PENROSE/MIDDLE GRAYBURG WFLD ZONE

PARAM-7098 WKS
TBL-38-7098.PRM
TABLE 3-8

WEIGHTS (PERCENT)	CURRENT OIL PROD 7-12/89 (PERCENT)	CURRENT GAS PROD 7-12/89 (PERCENT)	OIL CUM 07/01/89 (PERCENT)	GAS CUM 07/01/89 (PERCENT)	PRIMARY OIL RES 07/01/89 (PERCENT)	PRIMARY GAS RES 07/01/89 (PERCENT)	PRIMARY OIL ULT (PERCENT)	PRIMARY GAS ULT (PERCENT)	SECONDARY OIL ULT (PERCENT)	PRODUCING WELLS 01/01/90 (PERCENT)	USEABLE WELLS 01/01/90 (PERCENT)	PRODUCTIVE ACREAGE (PERCENT)
100.000	17.538	3.725	11.302	9.235	11.395	2.398	11.315	8.889	11.915	15.000	12.000	10.204
90.000	15.784	3.352	10.172	8.311	10.258	2.159	10.183	8.000	10.724	13.500	10.800	9.184
80.000	14.030	2.980	9.042	7.388	9.116	1.919	9.052	7.111	9.532	12.000	9.800	8.183
75.000	13.154	2.784	8.478	6.928	8.548	1.789	8.486	6.887	8.937	11.250	9.000	7.853
70.000	12.277	2.607	7.911	6.484	7.977	1.680	7.920	6.222	8.341	10.500	8.400	7.143
68.887	11.892	2.483	7.535	6.156	7.597	1.600	7.543	5.928	7.944	10.000	8.000	6.803
60.000	10.523	2.235	6.781	5.541	6.837	1.440	6.789	5.333	7.149	9.000	7.200	6.122
50.000	8.789	1.862	5.651	4.617	5.898	1.200	5.657	4.445	5.958	7.500	6.000	5.102
40.000	7.015	1.480	4.521	3.694	4.558	0.980	4.528	3.556	4.786	6.000	4.800	4.082
33.333	5.846	1.242	3.787	3.078	3.798	0.800	3.772	2.983	3.972	5.000	4.000	3.401
30.000	5.281	1.117	3.391	2.770	3.419	0.720	3.394	2.887	3.575	4.500	3.600	3.081
25.000	4.385	0.931	2.825	2.309	2.849	0.600	2.829	2.222	2.979	3.750	3.000	2.551
20.000	3.508	0.745	2.280	1.847	2.279	0.480	2.283	1.778	2.383	3.000	2.400	2.041
10.000	1.754	0.372	1.130	0.923	1.140	0.240	1.131	0.889	1.192	1.500	1.200	1.020
5.000	0.877	0.186	0.565	0.482	0.570	0.120	0.568	0.444	0.598	0.750	0.600	0.510

NOTE: ALL OIL VOLUMES ARE EXPRESSED IN BARRELS.
ALL GAS VOLUMES ARE EXPRESSED IN MCF.

WILLIAMSON PETROLEUM CONSULTANTS, INC.
MIDLAND, TEXAS
PAUL H. DAVIS/QLL

JOB 9.7098
05/25/90

HANSON-SIETE-YATES PROPOSED WATERFLOOD UNIT
SHUGART FIELD, EDDY COUNTY, NEW MEXICO
PERCENT UNIT PARTICIPATION OF INDIVIDUAL PARAMETERS
AT VARIOUS PARAMETER WEIGHTS
YATES PET. CORP. - PENROSE/MIDDLE GRAYSBURG WFLD ZONE

PARAM-7098.WKS
TBL-3C-7098.PRM
TABLE 3-C

WEIGHTS (PERCENT)	CURRENT OIL PROD 7-12/89 (PERCENT)	CURRENT GAS PROD 7-12/89 (PERCENT)	OIL CUM 07/01/89 (PERCENT)	GAS CUM 07/01/89 (PERCENT)	PRIMARY OIL RES 07/01/89 (PERCENT)	PRIMARY GAS RES 07/01/89 (PERCENT)	PRIMARY OIL ULT (PERCENT)	PRIMARY GAS ULT (PERCENT)	SECONDARY OIL ULT (PERCENT)	PRODUCING WELLS 01/01/90 (PERCENT)	USEABLE WELLS 01/01/90 (PERCENT)	PRODUCTIVE ACREAGE (PERCENT)
100.000	18.047	0.000	40.242	32.161	19.311	0.000	37.420	30.535	33.872	25.000	40.000	40.816
90.000	17.142	0.000	36.217	28.945	17.360	0.000	33.678	27.482	30.485	22.500	36.000	36.735
80.000	15.238	0.000	32.183	25.728	15.448	0.000	29.936	24.428	27.098	20.000	32.000	32.653
75.000	14.285	0.000	30.181	24.121	14.484	0.000	28.085	22.901	25.404	18.750	30.000	30.612
70.000	13.333	0.000	28.169	22.513	13.518	0.000	26.194	21.375	23.711	17.500	28.000	28.571
66.667	12.698	0.000	26.828	21.441	12.874	0.000	24.947	20.357	22.582	16.667	26.667	27.211
60.000	11.428	0.000	24.145	19.297	11.587	0.000	22.452	18.321	20.323	15.000	24.000	24.490
50.000	9.524	0.000	20.121	16.080	9.656	0.000	18.710	15.268	16.936	12.500	20.000	20.408
40.000	7.619	0.000	16.097	12.864	7.725	0.000	14.968	12.214	13.549	10.000	16.000	16.327
33.333	6.349	0.000	13.414	10.720	6.437	0.000	12.473	10.178	11.291	8.333	13.333	13.605
30.000	5.714	0.000	12.072	9.646	5.793	0.000	11.226	9.161	10.162	7.500	12.000	12.245
25.000	4.762	0.000	10.060	8.040	4.828	0.000	9.355	7.634	8.468	6.250	10.000	10.204
20.000	3.809	0.000	8.048	6.432	3.862	0.000	7.484	6.107	6.774	5.000	8.000	8.163
10.000	1.905	0.000	4.024	3.216	1.931	0.000	3.742	3.054	3.387	2.500	4.000	4.082
5.000	0.952	0.000	2.012	1.608	0.966	0.000	1.871	1.527	1.694	1.250	2.000	2.041

TABLE 3C

WILLIAMSON PETROLEUM CONSULTANTS, INC.
MIDLAND, TEXAS
PAUL H. DAVIS/GLL

NOTE: ALL OIL VOLUMES ARE EXPRESSED IN BARRELS.
ALL GAS VOLUMES ARE EXPRESSED IN MCF.

JOB 9.7098
05/25/90

HANSON-SIETE-YATES PROPOSED WATERFLOOD UNIT
SHUGART FIELD, EDDY COUNTY, NEW MEXICO
PERCENT UNIT PARTICIPATION OF INDIVIDUAL PARAMETERS
AT VARIOUS PARAMETER WEIGHTS
HANSON OP. CO. - SEVEN RIVERS WFLD ZONE

PARAM-7098.WKS
TBL-30-7098.PRN
TABLE 3-D

WEIGHTS (PERCENT)	CURRENT OIL PROD 7-12/89 (PERCENT)	CURRENT GAS PROD 7-12/89 (PERCENT)	OIL CUM 07/01/89 (PERCENT)	GAS CUM 07/01/89 (PERCENT)	PRIMARY OIL RES 07/01/89 (PERCENT)	PRIMARY GAS RES 07/01/89 (PERCENT)	PRIMARY OIL ULT (PERCENT)	PRIMARY GAS ULT (PERCENT)	SECONDARY OIL ULT (PERCENT)	PRODUCING WELLS 01/01/90 (PERCENT)	USEABLE WELLS 01/01/90 (PERCENT)	PRODUCTIVE ACREAGE (PERCENT)
100.000	49.345	100.000	20.403	30.126	48.787	100.000	23.302	37.838	28.431	21.429	17.647	21.053
90.000	44.410	90.000	18.363	27.113	43.908	90.000	20.971	34.054	25.588	19.286	15.882	18.947
80.000	39.476	80.000	16.322	24.101	39.030	80.000	18.641	30.271	22.745	17.143	14.118	16.842
75.000	37.008	75.000	15.302	22.584	36.590	75.000	17.476	28.379	21.323	16.071	13.235	15.789
70.000	34.541	70.000	14.282	21.088	34.151	70.000	16.311	26.487	19.902	15.000	12.353	14.737
66.867	32.897	66.867	13.602	20.084	32.525	66.867	15.534	25.225	18.954	14.286	11.765	14.035
60.000	29.807	60.000	12.242	18.076	29.272	60.000	13.981	22.703	17.059	12.857	10.588	12.832
50.000	24.672	50.000	10.202	15.063	24.394	50.000	11.651	18.919	14.215	10.714	8.824	10.526
40.000	19.738	40.000	8.161	12.050	19.515	40.000	9.321	15.135	11.372	8.571	7.059	8.421
33.333	16.448	33.333	6.801	10.042	16.282	33.333	7.767	12.613	9.477	7.143	5.882	7.018
30.000	14.803	30.000	6.121	9.038	14.636	30.000	6.990	11.351	8.528	6.429	5.294	6.316
25.000	12.336	25.000	5.101	7.531	12.197	25.000	5.825	9.460	7.108	5.357	4.412	5.263
20.000	9.869	20.000	4.081	6.025	9.757	20.000	4.660	7.588	5.686	4.286	3.529	4.211
10.000	4.834	10.000	2.040	3.013	4.879	10.000	2.330	3.764	2.843	2.143	1.765	2.105
5.000	2.467	5.000	1.020	1.506	2.439	5.000	1.165	1.892	1.422	1.071	0.882	1.053

WILLIAMSON PETROLEUM CONSULTANTS, INC.
MIDLAND, TEXAS
PAUL H. DAVIS/QLL

NOTE: ALL OIL VOLUMES ARE EXPRESSED IN BARRELS.
ALL GAS VOLUMES ARE EXPRESSED IN MCF.

TABLE 3D

JOB 9.7098
05/25/90

HANSON-SIETE-YATES PROPOSED WATERFLOOD UNIT
SHUGART FIELD, EDDY COUNTY, NEW MEXICO
PERCENT UNIT PARTICIPATION OF INDIVIDUAL PARAMETERS
AT VARIOUS PARAMETER WEIGHTS
SIETE O&G CORP. - SEVEN RIVERS WFLD ZONE

PARAM-7098.WKS
TBL-3E-7098.PRM
TABLE 3-E

WEIGHTS (PERCENT)	CURRENT OIL PROD 7-12/89 (PERCENT)	CURRENT GAS PROD 7-12/89 (PERCENT)	OIL CUM 07/01/89 (PERCENT)	GAS CUM 07/01/89 (PERCENT)	PRIMARY OIL RES 07/01/89 (PERCENT)	PRIMARY GAS RES 07/01/89 (PERCENT)	PRIMARY OIL ULT (PERCENT)	PRIMARY GAS ULT (PERCENT)	SECONDARY OIL ULT (PERCENT)	PRODUCING WELLS 01/01/90 (PERCENT)	USEABLE WELLS 01/01/90 (PERCENT)	PRODUCTIVE ACREAGE (PERCENT)
100.000	50.655	0.000	79.597	69.874	51.213	0.000	78.898	82.182	71.589	78.571	82.353	78.947
90.000	45.590	0.000	71.637	62.887	48.092	0.000	69.029	55.946	64.412	70.714	74.118	71.053
80.000	40.524	0.000	63.678	55.899	40.970	0.000	61.358	49.729	57.255	62.857	65.882	63.158
75.000	37.991	0.000	59.698	52.406	38.410	0.000	57.524	46.821	53.877	58.928	61.765	59.211
70.000	35.459	0.000	55.718	48.912	35.849	0.000	53.689	43.513	50.098	55.000	57.847	55.263
68.867	33.770	0.000	53.065	46.583	34.142	0.000	51.132	41.441	47.713	52.381	54.902	52.632
60.000	30.393	0.000	47.758	41.924	30.728	0.000	46.019	37.297	42.941	47.143	49.412	47.368
50.000	25.328	0.000	39.798	34.937	25.808	0.000	38.349	31.081	35.785	39.286	41.176	39.474
40.000	20.282	0.000	31.839	27.950	20.485	0.000	30.879	24.865	28.628	31.429	32.941	31.579
33.333	18.885	0.000	26.532	23.291	17.071	0.000	25.566	20.721	23.856	26.190	27.451	26.316
30.000	15.197	0.000	23.879	20.982	15.364	0.000	23.010	18.849	21.471	23.571	24.706	23.684
25.000	12.684	0.000	19.899	17.469	12.803	0.000	19.175	15.540	17.892	19.843	20.588	19.737
20.000	10.131	0.000	15.919	13.975	10.243	0.000	15.340	12.432	14.314	15.714	16.471	15.789
10.000	5.066	0.000	7.960	6.987	5.121	0.000	7.670	6.216	7.157	7.857	8.235	7.895
5.000	2.533	0.000	3.980	3.494	2.561	0.000	3.835	3.108	3.578	3.929	4.118	3.947

TABLE 3 E

WILLIAMSON PETROLEUM CONSULTANTS, INC.
MIDLAND, TEXAS
PAUL H. DAVIS/GLL

NOTE: ALL OIL VOLUMES ARE EXPRESSED IN BARRELS.
ALL GAS VOLUMES ARE EXPRESSED IN MCF.

JOB 9.7098
05/25/90

HANSON-SIETE-YATES PROPOSED WATERFLOOD UNIT
SHUGART FIELD, EDDY COUNTY, NEW MEXICO
PERCENT UNIT PARTICIPATION OF INDIVIDUAL PARAMETERS
AT VARIOUS PARAMETER WEIGHTS
HANSON OP. CO. - PENROSE/MID. GRAYBURG & 7 RIVERS WFLD ZONES

PARAM-7098.WKS
TBL-3F-7098.PRN
TABLE 3-F

WEIGHTS (PERCENT)	CURRENT OIL PROD 7-12/89 (PERCENT)	CURRENT GAS PROD 7-12/89 (PERCENT)	OIL CUM 07/01/89 (PERCENT)	GAS CUM 07/01/89 (PERCENT)	PRIMARY OIL RES 07/01/89 (PERCENT)	PRIMARY GAS RES 07/01/89 (PERCENT)	PRIMARY OIL ULT (PERCENT)	PRIMARY GAS ULT (PERCENT)	SECONDARY OIL ULT (PERCENT)	PRODUCING WELLS 01/01/90 (PERCENT)	USEABLE WELLS 01/01/90 (PERCENT)	PRODUCTIVE ACREAGE (PERCENT)
100.000	81.301	97.048	42.898	55.846	86.041	98.111	45.693	58.072	51.169	44.118	35.714	41.178
90.000	55.170	87.343	38.428	50.081	59.437	88.300	41.124	52.285	48.052	39.708	32.143	37.059
80.000	49.040	77.838	34.159	44.517	52.833	78.489	36.555	46.458	40.935	35.294	28.571	32.941
75.000	45.975	72.788	32.024	41.734	49.531	73.583	34.270	43.554	38.377	33.088	26.786	30.882
70.000	42.910	67.834	29.889	38.952	46.228	68.678	31.985	40.851	35.818	30.882	25.000	28.824
66.667	40.867	64.689	28.468	37.097	44.027	65.407	30.462	38.715	34.113	28.412	23.810	27.451
60.000	36.780	58.229	25.619	33.348	39.825	58.887	27.416	34.843	30.701	26.471	21.429	24.706
50.000	30.650	48.524	21.349	27.823	33.021	48.056	22.847	28.038	25.584	22.059	17.857	20.588
40.000	24.520	38.819	17.079	22.258	26.416	39.244	18.277	23.229	20.488	17.647	14.286	16.471
33.333	20.434	32.349	14.233	18.549	22.014	32.704	15.231	19.357	17.056	14.706	11.905	13.725
30.000	18.390	29.114	12.810	16.694	19.812	29.433	13.708	17.422	15.361	13.235	10.714	12.353
25.000	15.325	24.262	10.675	13.911	18.510	24.528	11.423	14.518	12.792	11.029	8.929	10.294
20.000	12.260	19.410	8.540	11.129	13.208	19.622	9.139	11.614	10.234	8.824	7.143	8.235
10.000	6.130	9.705	4.270	5.505	6.804	9.811	4.569	5.807	5.117	4.412	3.571	4.118
5.000	3.065	4.852	2.135	2.782	3.302	4.906	2.285	2.904	2.558	2.206	1.786	2.059

NOTE: ALL OIL VOLUMES ARE EXPRESSED IN BARRELS.
ALL GAS VOLUMES ARE EXPRESSED IN MCF.

WILLIAMSON PETROLEUM CONSULTANTS, INC.
MIDLAND, TEXAS
PAUL H. DAVIS/GLL

TABLE 3 F

JOB 9.7098
05/25/90

MANSON-SIETE-YATES PROPOSED WATERFLOOD UNIT
SHUGART FIELD, EDDY COUNTY, NEW MEXICO
PERCENT UNIT PARTICIPATION OF INDIVIDUAL PARAMETERERS
AT VARIOUS PARAMETER WEIGHTS
SIETE O&G CORP. - PENROSE/MID. GRAYBURG & 7 RIVERS WFLD ZONES

PARAM-7098.WKS
TBL-3G-7098.PRM
TABLE 3-G

WEIGHTS (PERCENT)	CURRENT OIL PROD 7-12/89 (PERCENT)	CURRENT GAS PROD 7-12/89 (PERCENT)	OIL CUM 07/01/89 (PERCENT)	GAS CUM 07/01/89 (PERCENT)	PRIMARY OIL RES 07/01/89 (PERCENT)	PRIMARY GAS RES 07/01/89 (PERCENT)	PRIMARY OIL ULT (PERCENT)	PRIMARY GAS ULT (PERCENT)	SECONDARY OIL ULT (PERCENT)	PRODUCING WELLS 01/01/90 (PERCENT)	USEABLE WELLS 01/01/90 (PERCENT)	PRODUCTIVE ACREAGE (PERCENT)
100.000	22.515	2.952	25.320	15.534	17.710	1.889	24.344	14.755	18.957	41.176	40.476	29.412
90.000	20.263	2.657	22.788	13.981	15.939	1.700	21.909	13.279	17.061	37.059	36.429	26.471
80.000	18.012	2.362	20.256	12.427	14.168	1.511	19.475	11.804	15.165	32.941	32.381	23.529
75.000	16.886	2.214	18.890	11.651	13.283	1.417	18.258	11.066	14.218	30.882	30.357	22.059
70.000	15.760	2.068	17.724	10.874	12.397	1.322	17.040	10.328	13.270	28.824	28.333	20.588
66.667	15.010	1.968	16.880	10.356	11.807	1.259	16.229	9.836	12.638	27.451	26.984	19.608
60.000	13.508	1.771	15.192	9.321	10.626	1.133	14.608	8.853	11.374	24.706	24.286	17.647
50.000	11.257	1.476	12.660	7.767	8.855	0.944	12.172	7.377	9.478	20.588	20.238	14.706
40.000	9.006	1.181	10.128	6.214	7.084	0.756	9.737	5.902	7.583	16.471	16.190	11.765
33.333	7.505	0.984	8.440	5.178	5.903	0.630	8.115	4.918	6.319	13.725	13.492	9.804
30.000	6.754	0.896	7.596	4.660	5.313	0.567	7.303	4.426	5.687	12.353	12.143	8.824
25.000	5.629	0.738	6.330	3.894	4.428	0.472	6.086	3.689	4.739	10.294	10.119	7.353
20.000	4.503	0.590	5.084	3.107	3.542	0.378	4.868	2.951	3.791	8.235	8.095	5.882
10.000	2.251	0.295	2.532	1.553	1.771	0.189	2.434	1.475	1.896	4.118	4.048	2.941
5.000	1.126	0.148	1.266	0.777	0.868	0.094	1.217	0.738	0.948	2.058	2.024	1.471

NOTE: ALL OIL VOLUMES ARE EXPRESSED IN BARRELS.
ALL GAS VOLUMES ARE EXPRESSED IN MCF.

WILLIAMSON PETROLEUM CONSULTANTS, INC.
MIDLAND, TEXAS
PAUL H. DAVIS/QLL

TABLE 3G

JOB 9.7098
05/25/90

HANSON-SIETE-YATES PROPOSED WATERFLOOD UNIT
SHUGART FIELD, EDDY COUNTY, NEW MEXICO
PERCENT UNIT PARTICIPATION OF INDIVIDUAL PARAMETERS
AT VARIOUS PARAMETER WEIGHTS
YATES PET. CORP. - PENROSE/MID. GRAYBURG & 7 RIVERS WFLD ZONES

PARAM-7098.WKS
TBL-3H-7098.PRIN
TABLE 3-H

WEIGHTS (PERCENT)	CURRENT OIL PROD 7-12/89 (PERCENT)	CURRENT GAS PROD 7-12/89 (PERCENT)	OIL CUM 07/01/89 (PERCENT)	GAS CUM 07/01/89 (PERCENT)	PRIMARY OIL RES 07/01/89 (PERCENT)	PRIMARY GAS RES 07/01/89 (PERCENT)	PRIMARY OIL ULT (PERCENT)	PRIMARY GAS ULT (PERCENT)	SECONDARY OIL ULT (PERCENT)	PRODUCING WELLS 01/01/90 (PERCENT)	USEABLE WELLS 01/01/90 (PERCENT)	PRODUCTIVE ACREAGE (PERCENT)
100.000	16.185	0.000	31.982	28.820	18.249	0.000	29.983	27.173	29.874	14.706	23.810	29.412
90.000	14.586	0.000	28.784	25.938	14.624	0.000	26.967	24.456	26.887	13.235	21.429	26.471
80.000	12.948	0.000	25.585	23.058	12.999	0.000	23.971	21.738	23.899	11.765	19.048	23.529
75.000	12.139	0.000	23.988	21.615	12.186	0.000	22.472	20.380	22.406	11.029	17.857	22.059
70.000	11.329	0.000	22.387	20.174	11.374	0.000	20.874	19.021	20.912	10.294	16.667	20.588
66.667	10.790	0.000	21.321	19.213	10.832	0.000	19.976	18.115	19.916	9.804	15.873	19.608
60.000	9.711	0.000	19.189	17.292	9.749	0.000	17.978	16.304	17.925	8.824	14.288	17.847
50.000	8.092	0.000	15.991	14.410	8.124	0.000	14.982	13.587	14.837	7.353	11.905	14.706
40.000	6.474	0.000	12.793	11.528	6.499	0.000	11.985	10.869	11.950	5.882	9.524	11.765
33.333	5.395	0.000	10.661	9.607	5.416	0.000	9.988	9.058	9.958	4.902	7.937	9.804
30.000	4.855	0.000	9.595	8.648	4.875	0.000	8.989	8.152	8.962	4.412	7.143	8.824
25.000	4.046	0.000	7.995	7.205	4.062	0.000	7.491	6.793	7.469	3.676	5.952	7.353
20.000	3.237	0.000	6.396	5.764	3.250	0.000	5.993	5.435	5.975	2.941	4.762	5.882
10.000	1.618	0.000	3.198	2.882	1.625	0.000	2.996	2.717	2.987	1.471	2.381	2.941
5.000	0.809	0.000	1.599	1.441	0.812	0.000	1.498	1.359	1.494	0.735	1.190	1.471

NOTE: ALL OIL VOLUMES ARE EXPRESSED IN BARRELS.
ALL GAS VOLUMES ARE EXPRESSED IN MCF.

WILLIAMSON PETROLEUM CONSULTANTS, INC.
MIDLAND, TEXAS
PAUL H. DAVIS/GLL

NOTATION

PAGE PROPERTY NAME TRACT FIELD (RESERVOIR) ST. COUNTY DIST*STREAMS SUMMARY CODES/DESCRIPTION

DIS 0/0: PNR DISCOUNTED AT MIDPOINT OF PERIOD, COMPOUNDED ANNUALLY.
CAPITAL AND SALVAGE ARE DISCOUNTED AT THE TIME THEY OCCUR.

** SEVERANCE TAX TABLE 37 **

100 PNR/MID.QBG WFLD Z10000 SHUGART (PNR/MID.QBG) NM, EDDY SE*O/Q/W E VA2

PROJECTION PHASE 1 PROPERTIES AND 0 SUMMARIES

STREAM CODES
L1: LIQUID 1 GAS(G): GAS OIL(O): OIL SUL(P): SULPHUR NGL(P): NATURAL GAS LIQ GR3: ALL GROSSES
L2: LIQUID 2 LIQ(P): LIQUID CON(O): CONDENSATE WTR(W): WATER (\$): INCOME/COST NET: ALL NETS

SUPPRESSIONS (SEE NOTATION)
* THE PROPERTY IS TOTALLY SUPPRESSED FROM ALL SUMMARIES, EXCEPT THOSE REFERENCED BY SUMMARY CODE.
SUP: ON A PROPERTY, THE STREAM IS SUPPRESSED FROM ALL SUMMARIES. ON A SUMMARY, THE PRINT IS SUPPRESSED.

GRADING OF RESERVES
AXX VALUE..... V: MAJOR VALUE M: MINOR N: NEW
XAX TYPE ANALYSIS..... P: PERFORMANCE A: ANALOGY V: VOLUMETRIC M: MATERIAL BAL. O: OTHER C: COMBINATION
XXA QUALITY FACTOR..... 4: EXCELLENT 3: GOOD 2: FAIR 1: POOR

INTEREST TYPE (IN LEASE/SUMMARY NAME)
W1: WORKING INTEREST PI: ADDITIONAL PURCHASED INT. NPI: NET PROFIT INTEREST NPR: NPO RESERVES
OR: ADDITIONAL OVERRIDE TI: TOTAL INTEREST NPO: NET PROFIT OVERRIDE NP\$: NPO FUTURE NET REVENUE

TABLE 4A

06/12/92 12.37.13 05282 9.7098
HANSON-SIETE-YATES
SHUGART (PNR/MID.GBG)
PROPOSED WATERFLOOD
CONSTANT ECONOMICS

07098WFLDK.0612 COM-PET

DATA
RESERVES AND ECONOMICS
EFFECTIVE MAY 01, 1990
YEAR ENDS DEC 31, 1990

PAGE 100
PNR/MID.GBG WFLD Z10000
SHUGART (PNR/MID.GBG)
NM. EDDY SE-O/G/W
HANSON-SIETE-YATES OPRS.

REM PRI + SEC RESERVES

VA2

COMB(WFLD)

OIL PRIMARY STREAM (BBL) LIFE = 19.1674 YRS TO 08/2009 PRIOR CUM = 1564107 RESERVES = 1500430 ULTIMATE = 3084537

INITIAL	FINAL	TIME	SEGMENT	CUM	OIL	ULTIMATE	TYPE	EXP	EQUIV	NOMINAL	DECLINE	INSTANTANEOUS
RATE	RATE	LIMIT	YEARS	YEARS	RESERVES	TYPE	EXP	0	EXP D	INITIAL	FINAL	RATE
2587.9	2428.9	10/1990	.4167	.4167	12489	1576598	EXP	.000	.125000	.011128	.011128	2511
1214.0	1062.2	10/1991	1.0000	1.4167	13637	1590233	EXP	.000	.125000	.011128	.011128	1138
1062.2	15000.0	10/1993	2.0000	3.4167	126338	1716571	EXP	.000	-2.757878	.110321	.110321	3992
15000.0	15000.0	10/1985	2.0000	5.4167	380000	2078571	EXP	.000	.000000	.000000	.000000	15000
15000.0	16000.0	08/2009	13.7507	19.1674	987886	3084537	EXP	.000	.150204	.013563	.013563	6548

WTR INDEPENDENT STREAM (BBL) LIFE = 19.1667 YRS TO 07/2009 PRIOR CUM = 0 RESERVES = 14046300 ULTIMATE = 14046300

INITIAL	FINAL	TIME	SEGMENT	CUM	WTR	ULTIMATE	TYPE	EXP	EQUIV	NOMINAL	DECLINE	INSTANTANEOUS
RATE	RATE	LIMIT	YEARS	YEARS	RESERVES	TYPE	EXP	0	EXP D	INITIAL	FINAL	RATE
		07/2009	19.1667	19.1667	14046300	14046300	PER					

GAS (MCF) DEPENDENT ON OIL LIFE = 19.1674 YRS TO 08/2009 PRIOR CUM = 1763667 RESERVES = 415121 ULTIMATE = 2178788

INITIAL	FINAL	TIME	SEGMENT	CUM	GAS	ULTIMATE	FUNCTION	OIL	ULT
RATIO	RATIO	LIMIT	YEARS	YEARS	RESERVES	TYPE	SEMILOG 0	LIMIT	3084537
.371	.200	08/2009	19.1674	19.1674	415121				

PRODUCTION TAXES OIL SEV = .037500 WTR SEV = .000000 GAS SEV = .037500 AD VALOREM = .040703

---WORKING INTEREST---
DECIMAL TO LIMIT FINAL
1.000000

-----OIL INTEREST-----
DECIMAL TO LIMIT FINAL
.800000

-----WTR INTEREST-----
DECIMAL TO LIMIT FINAL
1.000000

-----GAS INTEREST-----
DECIMAL TO LIMIT FINAL
.800000

OPERATING EXPENSE \$/MO
TO LIMIT
28400 01/2001
28600 01/2002
24800 01/2003
23000 01/2004
21200 01/2005
19400 01/2006
17600 01/2007
15800 01/2008
14000 FINAL

-----OIL PRICE-----
PRICE TO LIMIT
18.48

-----WTR PRICE-----
PRICE TO LIMIT
.00

-----GAS PRICE-----
PRICE TO LIMIT
1.310

OP COST ON WTR(WI) \$/BBL
EXPENSE TO LIMIT FINAL
.10

-----COMPLETIONS-----
NUMBER TO LIMIT FINAL
23

-----CAPITAL \$-----
AMOUNT APPLY DATE
1131410 09/1990
142120 01/1992
142120 01/1993
142120 01/1994

NOTE: WATER PRODUCTION REPRESENTS MAKEUP INJECTION WATER TO BE PURCHASED

CHECKING FOR NEGATIVE FUTURE NET REVENUE BEFORE CAPITAL AFTER 3.67 YRS

06/12/92 12.37.13 05282 9.7098 07098NWFLDK.0612 COM-PET
 HANSON-SIETE-YATES PROPERTY
 SHUGART (PNR/MID.GBG) RESERVES AND ECONOMICS
 PROPOSED WATERFLOOD EFFECTIVE MAY 01, 1990
 CONSTANT ECONOMICS YEAR ENDS DEC 31, 1990

LIFE = 19.17 BEQ= 1.000000 OIL INT WTR INT GAS INT OIL (88L) WTR (88L) GAS (MCF) 1763667
 MAX CMP= 23.0 END= 1.000000 .800000 1.000000 .800000 1500430 14048300 415121
 AVG= 1.000000 .800000 1.000000 .800000 3084537 14048300 2178788

YEAR	OIL (BBL)	WTR (BBL)	GAS (MCF)	OIL (88L)	WTR (88L)	GAS (MCF)	OIL (\$/BBL)	WTR (\$/BBL)	GAS (\$/MCF)	BACK-CALC-AVG	LIQ (\$)	GAS (\$)
1980	16070	356300	5939	12856	356300	4751	16.48	16.48	1.310	0.00	7945	233
1981	13833	1515000	5081	11066	1515000	4085	16.48	16.48	1.310	0.00	6839	200
1982	36970	1513000	13438	29678	1513000	10750	16.48	16.48	1.310	0.00	18278	528
1983	130591	1503000	45868	104473	1503000	36693	16.48	16.48	1.310	0.00	84564	1803
1984	180000	1488000	59312	144000	1488000	47450	16.48	16.48	1.310	0.00	88992	2331
1985	179086	1348700	54812	143277	1348700	43850	16.48	16.48	1.310	0.00	88545	2154
1986	158482	1185000	45525	127594	1185000	36420	16.48	16.48	1.310	0.00	78853	1789
1987	135535	1038700	38408	108428	1038700	29128	16.48	16.48	1.310	0.00	67008	1431
1988	115178	891900	29382	92142	891900	23508	16.48	16.48	1.310	0.00	56944	1155
1989	97877	735700	23888	78302	735700	19118	16.48	16.48	1.310	0.00	48391	938
2000	83176	476700	19565	68541	476700	15852	16.48	16.48	1.310	0.00	41122	789
2001	70682	371200	16109	55546	371200	12887	16.48	16.48	1.310	0.00	34945	633
2002	60066	331200	13325	48053	331200	10680	16.48	16.48	1.310	0.00	28697	524
2003	51044	280000	11068	40835	280000	8854	16.48	16.48	1.310	0.00	25236	435
2004	43377	214700	9224	34702	214700	7379	16.48	16.48	1.310	0.00	21446	362
SUB	1372987	13251100	388952	1088391	13251100	311181	16.48	16.48	1.310	0.00	678805	15286
REM	127443	795200	26169	101955	795200	20936	16.48	16.48	1.310	0.00	63008	1028
TOT	1500430	14046300	415121	1200346	14046300	332097	16.48	16.48	1.310	0.00	741613	16314

YEAR	OIL (\$)	WTR (\$)	GAS (\$)	PRODUCTION TAX TOTAL (\$)	AD VALOREM TAXES (\$)	OPERATING COSTS (\$)	CAPITAL COSTS (\$)	EQUIPMENT SALVAGE (\$)	FUTURE NET REVENUE (\$)	DISCOUNTED 10.000 PCT	CUM DISC 10.000 PCT
1990	203922	0	5991	209913	8543	262832	1131410	0	-1192872	-1155570	-1155570
1991	175529	0	5125	180654	7352	492300	0	0	-318998	-285428	-1440998
1992	489134	0	13554	482888	19847	482098	142120	0	-171175	-14880	-1585878
1993	1657151	0	48265	1703416	69333	481100	142120	0	1000863	734983	-850895
1994	2284128	0	59828	2333956	95406	489600	142120	0	1616830	1082250	231355
1995	2272660	0	55289	2327949	94754	475776	0	0	1757419	1074022	1305377
1996	2023888	0	45921	2069817	84248	458300	0	0	1526269	847962	2153338
1997	1719885	0	38724	1758609	71489	444768	0	0	1240342	626461	2779800
1998	1461556	0	28638	1491194	60987	428986	0	0	1000501	459385	3238185
1999	1242026	0	24106	1266132	51536	414372	0	0	800224	334025	3573210
2000	898933	0	18735	9175209	43764	388476	0	0	642989	243986	3817186
2001	762218	0	16249	913182	37189	358316	0	0	519697	179280	3986476
2002	647725	0	13441	775857	31570	330720	0	0	413367	129636	4218112
2003	550443	0	9304	559747	26818	303986	0	0	328075	93534	4218646
2004	17422678	0	392334	17815012	725121	8107516	0	0	261094	67671	4287317
SUB	1617212	0	26398	1843610	68802	965243	1557770	0	611465	128238	4287317
REM	19039890	0	418732	19458622	792023	7072759	1557770	0	10038070	4415555	4415555
TOT											

DISC NET REVENUE AT 8.000 PERCENT 5175184
 12.000 PERCENT 3771132
 15.000 PERCENT 2975869
 18.000 PERCENT 2340525
 20.000 PERCENT 1986544

NOTE: WATER PRODUCTION REPRESENTS MAKEUP INJECTION WATER TO BE PURCHASED
 WILLIAMSON PETROLEUM CONSULTANTS, INC.
 MIDLAND, TEXAS
 PAUL H. DAVIS/GLL

TABLE 4C