Chevron U.S.A. Inc.
P.O. Box 1150, Midland, TX 79702

Permian Basin Production Business Unit

April 7, 1992

Revised C-108 Locations
Arrowhead Grayburg Unit
Arrowhead Grayburg Oil Pool

New Mexico
Energy Minerals & Natural Resources Dept.
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87504

Attn.: Mr. David Catanach

Chevron U.S.A. respectfully requests approval to revise locations of two permitted injection wells in the Arrowhead Grayburg Unit. In both cases, the original application and approval were for new-drill injection well locations that we now desire to replace by conversion of existing wellbores.

Attached is a copy of our Application for Authorization to Inject (OCD Form C-108, dated 2/7/91) and Order R-9483 granting us that authority for the subject Unit including the proposed new-drill AGU Injection Wells No.128 and No.194 (shown on Page 2 of Exhibit A). The proposed new-drill injection Well No.128 was to be located in Unit Letter G, Section 36, T-21-S, R-36-E while the proposed new-drill injection Well No.194 was to be located in Unit Letter E, Section 12, T-22-S, R-36-E.

Now, instead, Chevron would like to convert the Harry Leonard (NCT-C) Well No. 15 to an injection well and rename it the AGU 128 WIC. This well is located 1650 feet FNL and 2013 feet FEL, Unit Letter G, Section 36, T-21-S, R-36-E, NMPM, Lea County, New Mexico. Also, we would like to convert The H. T. Mattern (NCT-E) Well No. 5 and rename it the AGU 194 WIC. This well is located 2310 feet FNL and 330 feet FWL, Unit Letter E, Section 12, T-22-S, R-36-E, NMPM, Lea County, New Mexico. Both of these conversion locations are standard in the subject oil pool and Unit.

Allowing Chevron to replace the originally proposed new-drill injection wells with the above mentioned conversions of existing wellbores will prevent waste. Please be aware that some changes in operatorship have occurred within the one-half mile

area of review associated with these existing wellbores since the granting of the original application. There have not, however, been any additional wellbores or subsequently plugged or abandoned wells generated within these new respective areas of review.

On this basis, Chevron respectfully requests your approval to revise the locations for the subject Unit wells. The offset operators, shown on the attached list, are being notified by certified mail with a copy of this letter. If any further information is required concerning this request, please contact me at (915) 687-7246.

Yours Very Truly,

Alan W. Bohling

Alan W. Bohling
Proration Engineer

AWB
cc: NMOCD -- Hobbs, NM

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

FORM C-108
Revised 7-1-81

APPLICATION FOR AUTHORIZATION TO INJECT

I. Purpose: [X] Secondary Recovery [ ] Pressure Maintenance [ ] Disposal [ ] Storage
Application qualifies for administrative approval? [ ] yes [X] no

II. Operator: Chevron U.S.A., Inc.

Address: PO Box 1150 Midland, TX 79702

Contact party: Mr. B. C. Cotner Phone: (915) 687-7314

III. Well data: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project? [ ] yes [X] no
If yes, give the Division order number authorizing the project _____.

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.

* VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

VII. Attach data on the proposed operat---

1. Proposed ave- of fluids to be injected;
2. Whether the
3. Proposed ave
4. Sources and uid and compatibility with the receiv. roduced water; and
5. If injection t productive of oil or gas at or withi a chemical analysis of the disposa or inferred from existing literature,

*VIII. Attach appropriate ge luding appropriate lithologic detail, geological nam ogic name, and depth to bottom of all undergro containing waters with total dissolved solids overlying the proposed injection zone as well tely underlying the injection interval.

IX. Describe the proposed s

* X. Attach appropriate logg l logs have been filed with the Division they

* XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.

XIV. Certification

I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: B. C. Cotner Title Unitization Coordinator

Signature: B. C. Cotner Date: 2/7/91

If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal. _____

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate Division district office.

III. WELL DATA

A. The following well data must be submitted for each injection well covered by this applic The data must be both in tabular and schematic form and shall include:

(1) Lease name; Well No.; location by Section, Township, and Range; and footage location within the section.

(2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.

(3) A description of the tubing to be used including its size, lining material, and setting depth.

(4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

(1) The name of the injection formation and, if applicable, the field or pool name.

(2) The injection interval and whether it is perforated or open-hole.

(3) State if the well was drilled for injection or, if not, the original purpose of the well.

(4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.

(5) Give the depth to and name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

(1) The name, address, phone number, and contact party for the applicant;

(2) the intended purpose of the injection well; with the exact location of single wells or the section, township, and range location of multiple wells;

(3) the formation name and depth with expected maximum injection rates and pressures; and

(4) a notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87501 within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 10260
ORDER NO. R-9483

APPLICATION OF CHEVRON U.S.A., INC.
FOR A WATERFLOOD PROJECT, LEA COUNTY,
NEW MEXICO

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on March 7, 1991, at Santa Fe, New Mexico, before Examiner Jim Morrow.

NOW, on this 8th day of April, 1991, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

(1) Due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) At the time of the hearing, this case was consolidated with Division Case Nos. 10259 and 10261 for the purpose of testimony.

(3) The applicant, Chevron U.S.A., Inc., seeks authority to institute a waterflood project on its proposed Arrowhead-Grayburg Unit Area (Division Case No. 10259), Lea County, New Mexico, by the injection of water into the Arrowhead-Grayburg Pool through certain wells as listed in Exhibit "A", attached hereto and made a part hereof, to be either new wells drilled as injection wells or producing oil wells converted to injection wells.

(4) It is proposed that the waterflood project area coincide with the boundary of the Arrowhead-Grayburg Unit Area in Lea County, New Mexico as further described below, which was the subject of Division Case No. 10259 and was heard in conjunction with this case:

Township 21 South, Range 36 East, NMPM
Section 25: All
Section 26: SE/4 SE/4
Section 35: E/2; E/2 SW/4; SW/4 SW/4; SE/4 NW/4
Section 36: All

Township 22 South, Range 36 East, NMPM
Section 1: All
Section 2: All
Section 11: NE/4 NW/4; NE/4; NE/4 SE/4
Section 12: All
Section 13: E/2; E/2 NW/4; NW/4 NW/4; NE/4 SW/4
Section 24: NE/4 NE/4

Township 22 South, Range 37 East, NMPM
Section 6: W/2 NW/4; SW/4
Section 7: W/2; S/2 SE/4; NW/4 SE/4
Section 18: All
Section 19: N/2 N/2

(5) The wells in the proposed project area are in an advanced state of depletion and should therefore be properly classified for secondary recovery operations.

(6) The proposed waterflood project should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.

(7) The operator should take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape into other formations or onto the surface from injection, production or plugged and abandoned wells.

(8) The applicant's testimony indicates that there are six previously abandoned wells which may not have been adequately plugged and which are located within one-half mile of certain proposed injection wells in the proposed unit all as shown on Exhibit "B" hereto.

(9) Prior to commencement of injection into any injector within one-half mile of a problem well, as described on Exhibit "B", the applicant should consult with the supervisor of the Oil Conservation Division's district office at Hobbs to develop a plan acceptable to the Director of said Division, for the repairing, plugging, or replugging of said wells or for the monitoring for determination of fluid movement from the injected interval or for the drilling of producing wells to lower reservoir pressure and fluid levels in the vicinity of said wells in order to protect neighboring properties and to protect other oil or gas zones or fresh water. Any additional problem wells within one-half mile of an injector identified by the supervisor of the Hobbs office should be handled in the manner set out above.

(10) The operator should immediately notify the supervisor of the Division's Hobbs District Office of the failure of the tubing or packer in any of said injection wells, the leakage of water or oil from or around any producing well, or the leakage of water or oil from any plugged and abandoned well within the project area, and should take such timely steps as may be necessary or required to correct such failure or leakage.

(11) Injection into each well should be accomplished through plastic-lined tubing installed in a packer set at approximately 100 feet above the uppermost perforation; the casing-tubing annulus in each well should be filled with an inert fluid; and a pressure gauge or approved leak-detection device should be attached to the annulus in order to determine leaks in the casing, tubing or packer.

(12) The injection wells or pressurization system for each well should be so equipped as to limit surface injection pressure at the wellhead to no more than 734 psi (0.2 psi per foot).

(13) Prior to commencing injection operations, the casing in each of the subject wells should be pressure-tested throughout the interval, from the surface down to the proposed packer-setting depth, to assure integrity of such casing.

(14) There are currently two Eumont gas wells which penetrate into the unitized interval: The Chevron W.A. Ramsay B-2 well, Unit E, Section 25, Township 21 South, Range 36 East, and the Amerada Hess P.A. State No. 5 well, Unit N, Section 18, Township 22 South, Range 37 East, NMPM, for which special procedures should be established to avoid the migration of injection fluids into the Eumont Gas Pool without having either gas well recompleted out of the unitized interval at this time.

(15) The applicant identified five wells shown on Exhibit "30", which were completed in the unit but were also completed from one to eight feet above the top of the unit.

(16) The applicant's request that it not be required to isolate the unitized interval from the non-unitized interval in each of these five wells should be granted because none of these wells is productive in the non-unit interval and the expense of a workover to accomplish that separation is not warranted and the risk of damage to the well is not justified.

(17) The Director of the Division should be authorized to administratively approve an increase in the injection pressure upon a proper showing by the operator that such higher pressure will not result in migration of the injected waters from the unitized formations.

(18) The operator should give advance notice to the supervisor of the Hobbs District Office of the Division of the date and time of the installation of injection equipment and of the mechanical integrity pressure-test in order that the same may be witnessed.

(19) The subject application should be approved and the project should be governed by the provisions of Rules 702 through 708 of the Division Rules and Regulations.

IT IS THEREFORE ORDERED THAT:

(1) The applicant, Chevron U.S.A., Inc., is hereby authorized to institute a waterflood project on its proposed

Arrowhead-Grayburg Unit Area (Division Case No. 10259), Lea County, New Mexico, by the injection of water into the Arrowhead Pool through wells listed in Exhibit "A", attached hereto and made a part hereof, which will be drilled as injection wells or converted from producing oil wells to injection wells.

(2) The waterflood project, hereby designated the Arrowhead-Grayburg Waterflood Project, shall be comprised of the following described area in Lea County, New Mexico:

Township 21 South, Range 36 East, NMPM
Section 25: All
Section 26: SE/4 SE/4
Section 35: E/2; E/2 SW/4; SW/4 SW/4; SE/4 NW/4
Section 36: All

Township 22 South, Range 36 East, NMPM
Section 1: All
Section 2: All
Section 11: NE/4 NW/4; NE/4; NE/4 SE/4
Section 12: All
Section 13: E/2; E/2 NW/4; NW/4 NW/4; NE/4 SW/4
Section 24: NE/4 NE/4

Township 22 South, Range 37 East, NMPM
Section 6: W/2 NW/4; SW/4
Section 7: W/2; S/2 SE/4; NW/4 SE/4
Section 18: All
Section 19: N/2 N/2

(3) Prior to commencing injection into any injector within one-half mile of a problem well as shown on Exhibit "B" of this order, the applicant shall consult with the supervisor of the Oil Conservation Division's district office at Hobbs to develop a plan acceptable to the Director of said Division, for the repairing, plugging, or replugging of said wells or for the monitoring for determination of fluid movement from the injected interval or for the drilling of producing wells to lower reservoir pressure and fluid levels in the vicinity of said wells in order to protect neighboring properties and to protect either oil or gas zones or fresh water. Any additional problem wells within one-half mile of an injector identified by the supervisor of the Hobbs office shall be handled in the manner set out above.

(4) The operator shall immediately notify the supervisor of the Division's Hobbs District Office of the failure of the tubing or packer in any of said injection wells, the leakage of water or oil from or around any producing wells, or the leakage of water or oil from any plugged and abandoned well within the project area, and shall take such timely steps as may be necessary or required to correct such failure or leakage.

(5) Injection into each well described in Exhibit "A" shall be accomplished through plastic-lined tubing installed in a packer set at approximately 100 feet above the uppermost perforation.

(6) The casing-tubing annulus in each well shall be filled with an inert fluid; and a pressure gauge shall be attached to the annulus or the annulus shall be equipped with an approved leak-detection device in order to determine leakage in the casing, tubing or packer.

(7) Prior to commencing injection operations, the casing in each of the subject wells shall be pressure-tested to assure the integrity of such casing in a manner that is satisfactory to the supervisor of the Division's Hobbs District Office.

(8) Each injection well or pressurization system for each well shall be equipped with a pressure-limiting switch or other acceptable device which will limit the wellhead pressure on the injection well to no more than 734 psi (0.2 psi per foot).

(9) The Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the injected fluid from the Grayburg-San Andres formation.

(10) The operator shall notify the supervisor of the Hobbs District Office of the Division in advance of the date and time of the installation of injection equipment and of the mechanical integrity pressure-test in order that the same may be witnessed.

(11) The operator shall immediately notify the supervisor of the Division's Hobbs District Office of the failure of the tubing, casing or packer, in any of said injection wells or the leakage of water from or around any producing well, or the leakage of water or oil from any plugged and abandoned well within the project area and shall take such timely steps as may be necessary or required to correct such failure or leakage.

(12) The operator shall monitor the pressure annually and the fluid monthly on the following two Eumont gas wells with completion intervals extending into the unitization formation. At such time as either the pressure or the fluid composition of either well indicates potential migration of unit fluids into either wellbore, the operator shall cause the affected gas well to be plugged back out of the unitized interval and isolated from the unit:

(1) Chevron W.A. Ramsay B-2 well, Unit E, Section 25, T21S, R36E

(2) Amerada Hess P.A. State No. 5 well, Unit N. Section 18, T22S, R37E

(13) Unless converted to injectors, the operator shall not be required to isolate the unitized interval in the following wells from the non-unitized interval:

Operator	Lease	Well	Location
Conoco	Lockhart B-1	5	Unit O, Sec. 1, T22S, R36E
Marathon	McDonald State	12	Unit B, Sec. 13, T22S, R36E
Marathon	McDonald State	13	Unit C, Sec. 13, T22S, R36E
Rasmussen	State A "AC" 2	16	Unit I, Sec. 11, T22S, R36E
Rasmussen	State A "AC" 2	17	Unit H, Sec. 11, T22S, R36E

(14) Said waterflood project shall be governed by the provisions of Rules 702 through 708 of the Division Rules and Regulations.

(15) Monthly progress reports shall be submitted to the Division in accordance with Rules 706 and 1115.

(16) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

WILLIAM J. LEMAY
Director

S E A L

ARROWHEAD GRAYBURG UNIT
PROPOSED INJECTION WELL CONVERSIONS

Proposed Well Number	Lease Name	Well no	Footage	Unit/Sec/TWS/RNG	Operator	Pool
AGU 106 WIC	W A RAMSAY (NCT-B)	5	2105 FNL & 1650 FEL	G 25 21 S 36 E	Chevron	Arrowhead (formerly Penrose Skelly)
AGU 115 WIC	KINGWOOD	2	660 FSL & 1650 FEL	O 25 21 S 36 E	Chevron	Arrowhead (formerly Penrose Skelly)
AGU 119 WIC	HARRY LEONARD (NCT-C)	5	660 FNL & 1980 FWL	C 36 21 S 36 E	Chevron	Arrowhead
AGU 121 WIC	W A RAMSAY (NCT-A)	11	660 FNL & 660 FEL	A 35 21 S 36 E	Chevron	Arrowhead
AGU 124 WIC	W A RAMSAY (NCT-A)	9	1980 FNL & 1980 FEL	G 35 21 S 36 E	Chevron	Arrowhead (formerly Eumont Oil)
AGU 126 WIC	HARRY LEONARD (NCT-C)	3	1980 FNL & 660 FWL	E 36 21 S 36 E	Chevron	Arrowhead
AGU 132 WIC	HARRY LEONARD (NCT-C)	2	1980 FSL & 1980 FWL	K 36 21 S 36 E	Chevron	Arrowhead
AGU 134 WIC	W A RAMSAY (NCT-A)	5	1980 FSL & 660 FEL	I 35 21 S 36 E	Chevron	Arrowhead
AGU 141 WIC	STATE 'M'	1	660 FSL & 660 FWL	M 36 21 S 36 E	OXY USA	Arrowhead
AGU 143 WIC	STATE 'D' DE	1	330 FSL & 2310 FEL	O 36 21 S 36 E	ARCO	Arrowhead
AGU 146 WIC	H T MATTERN (NCT-F)	2	660 FNL & 660 FEL	A 1 22 S 36 E	Chevron	Arrowhead
AGU 150 WIC	STATE J-2	4	660 FNL & 660 FEL	A 2 22 S 36 E	CONOCO	Arrowhead
AGU 152 WIC	STATE J-2	11	660 FNL & 1980 FWL	C 2 22 S 36 E	CONOCO	Arrowhead
AGU 156 WIC	STATE J-2	9	1980 FNL & 1980 FEL	G 2 22 S 36 E	CONOCO	Arrowhead
AGU 158 WIC	LOCKHART B-1 FED.	1	1980 FNL & 660 FWL	E 1 22 S 36 E	CONOCO	Arrowhead
AGU 160 WIC	LOCKHART B-1 FED.	7	1980 FNL & 1830 FEL	G 1 22 S 36 E	CONOCO	Arrowhead
AGU 167 WIC	H T MATTERN (NCT-E)	2	1980 FSL & 1980 FWL	K 1 22 S 36 E	Chevron	Arrowhead
AGU 169 WIC	STATE J-2	2	1980 FSL & 660 FEL	I 2 22 S 36 E	CONOCO	Arrowhead
AGU 171 WIC	STATE 'N'	2	2310 FSL & 2310 FWL	K 2 22 S 36 E	OXY USA	Arrowhead
AGU 175 WIC	STATE J-2	6	660 FSL & 1980 FEL	O 2 22 S 36 E	CONOCO	Arrowhead
AGU 177 WIC	H T MATTERN (NCT-E)	4	660 FSL & 660 FWL	M 1 22 S 36 E	Chevron	Arrowhead
AGU 179 WIC	LOCKHART B-1 FED.	5	660 FSL & 1980 FEL	O 1 22 S 36 E	CONOCO	Arrowhead
AGU 185 WIC	H T MATTERN (NCT-E)	12	660 FNL & 660 FEL	A 12 22 S 36 E	Chevron	Arrowhead
AGU 187 WIC	H T MATTERN (NCT-E)	9	660 FNL & 1980 FWL	C 12 22 S 36 E	Chevron	Arrowhead
AGU 189 WIC	STATE 'A' AC 2	13	660 FNL & 660 FEL	A 11 22 S 36 E	Rasmussen	Arrowhead
AGU 196 WIC	H T MATTERN (NCT-E)	7	2310 FNL & 2310 FEL	G 12 22 S 36 E	Chevron	Arrowhead
AGU 198 WIC	H T MATTERN (NCT-D)	2	2310 FNL & 330 FWL	E 7 22 S 37 E	Chevron	Arrowhead
AGU 201 WIC	MATTERN	2	1650 FSL & 1650 FWL	K 7 22 S 37 E	Chevron	Arrowhead
AGU 222 WIC	MCDONALD STATE AC 2	13	330 FNL & 2310 FWL	C 13 22 S 37 E	Marathon	Arrowhead
AGU 233 WIC	STATE 'PA'	4	2310 FSL & 1980 FWL	K 18 22 S 37 E	Amerada Hess	Arrowhead

CASE NO. 10260 - Order No. R-9483
Exhibit A
Page 1 of 2

PROPOSED ARROWHEAD GRAYBURG UNIT
INJECTION WELLS TO BE DRILLED

WELL NO.	LOCATION UNIT	SECTION	TWS	RANGE
AGU 110 WI	NE/4 SW/4	25	21-S	36-E
AGU 113 WI	SW/4 SW/4	25	21-S	36-E
AGU 128 WI	SE/4 NE/4	36	21-S	36-E
AGU 139 WI	SW/4 SE/4	35	21-S	36-E
AGU 148 WI	NE/4 NW/4	1	22-S	36-E
AGU 165 WI	NE/4 SE/4	1	22-S	36-E
AGU 181 WI	SW/4 SW/4	6	22-S	37-E
AGU 194 WI	SW/4 NW/4	12	22-S	36-E
AGU 203 WI	NE/4 SE/4	12	22-S	36-E
AGU 205 WI	NE/4 SW/4	12	22-S	36-E
AGU 210 WI	SW/4 SE/4	12	22-S	36-E
AGU 212 WI	SW/4 SW/4	7	22-S	37-E
AGU 214 WI	SW/4 SE/4	7	22-S	37-E
AGU 218 WI	NE/4 NW/4	18	22-S	37-E
AGU 220 WI	NE/4 NE/4	13	22-S	36-E
AGU 225 WI	SW/4 NE/4	13	22-S	36-E
AGU 227 WI	SW/4 NW/4	18	22-S	37-E
AGU 229 WI	SW/4 NE/4	18	22-S	37-E
AGU 235 WI	NE/4 SE/4	13	22-S	36-E
AGU 240 WI	SW/4 SW/4	18	22-S	37-E
AGU 242 WI	SW/4 SE/4	18	22-S	37-E
AGU 246 WI	NE/4 NW/4	19	22-S	37-E

CASE NO. 10260 - Order No. R-9483

Exhibit "B"

Proposed Arrowhead Grayburg Unit
Potential "Problem Wells"

Operator	Lease	Well No	Location	Comment
Bay Petroleum	Brownlee	1	25 21-S 36-E	Insure DH marker and Surface Plug
Gribble	State	1	36 21-S 36-E	Depths of plugs unknown
Conoco	State J-2	8	2 22-S 36-E	No plugs at pay or salt
Chevron	HT Mattern (NCT-E)	5	12 22-S 36-E	No plug at salt or base of surface string
Chevron	HT Mattern (NCT-D)	5	7 22-S 37-E	No plug at salt or base of surface string
Amerada Hess	State 'PA'	2	18 22-S 37-E	No plugs at pay or salt

Revised C-108 Locations
Arrowhead Grayburg Unit
Arrowhead Grayburg Oil Pool

OFFSET OPERATORS

Amerada Hess Corporation
Entex Building
1200 Milam Street
Houston, Texas 77002

American Exploration
2100 Republic Bank Center
Houston, Texas 77002

Lidenmuth & Associates
500 W. 6th Street, Ste. 200
Austin, Texas 78701

Hal J. Rasmussen
Six Desta Dr., Ste. 5850
Midland, Texas 79705

Clayton W. Williams, Jr., Inc.
3000 Claydesta Natl. Bk. Bldg.
6 Desta Drive
Midland, Texas 79705

R 36 E

R 37 E

T 21 S

T 22 S

EMSU
Chevron (Oper.)

Claytan Williams

[ORIGINAL APPLICATION - AREA OF REVIEW]

LEGEND

Location or Drilling
- Oil
- P&A Oil
- TA or Cl Oil
- Gas
- P&A Gas
- TA or Cl Gas

Oil & Gas
- P&A Oil & Gas
- Dry & Abn.
- Inj.
- Proposed A.G.U. Water Injection Conversion
- Proposed A.G.U. New Drill Injector
- 1/2 Mile Radius Of Review -- (Around All Proposed A.G.U. Injectors)

Unit Boundary

Chevron

PROPOSED ARROWHEAD GRAYBURG UNIT AREA OF REVIEW
Lea County, New Mexico
R.A. SMITH 3/88
DON LINDSEY 11/90

LOCATION DATE IS: JAN-01-1980 12:00:00

22 | 23 | 21 S 36 E | 24 | 19 | 21 37 E | 20

N

27 | 26 | 25 | 30 | 29

CHEVRON
"B" W. A. RAMSAY
ARCO | CHEVRON | CHEVRON et al
HWY 18-176
HAWKWOOD
J. M. BROWNLEE | SAMAY "MOORE"
DUMP GROUND ROAD
CHEVRON | CHEVRON

34 | 35 | 36 | 31 | 32

"N. LEONARD" C"
OXY | ARCO | CHEVRON
AMERADA A. EXPL.
"A" "W. A. RAMSAY" STATE
"M" | STATE
LINDENMUTH & ASSOCIATES

CONOCO | MARATHON | CHEVRON | CHEVRON
"SAUNDERS" | "F" H. T. MATTERN
CONOCO

3 | 2 | 1 | 6 | 5

OXY | CHEVRON | CHEVRON et al
"N" STATE "F" | "F" H. T. MATTERN | "LOCKHART" "B" | "ELLIOTT" "B" | "D" H. T. MATTERN
CHEVRON | CHEVRON

10 | 11 | 12 | 7 | 8

CLAYTON W. WILLIAMS, JR.
"AC" STATE | "F" H. T. MATTERN | ARCO 187-D | CHEVRON et al | CHEVRON et al
"J" STATE | MATTERN
DELWARE BASIN ROAD

14 | 13 | 18 | 17

MARATHON
CHEVRON et al
DECK
CHEVRON
A. L. CHRISTMAS "C"
AMERADA | AMERICAN EXPL. CO. ZIA ENERGY
"McDONALD" STATE "AC" | "M" STATE "M"

22 S 36 E | 22 S 37 E
AMERICAN EXPL. CO.

24 | 19 | 20

STATE

LEGEND

- UNIT PRODUCING WELL EXISTING
- UNIT INJECTOR CONVERSION
- UNIT PRODUCING WELL NEW DRILL
- UNIT INJECTOR NEW DRILL
- NON UNIT WELL

Revisions

Chevron U.S.A. Inc.
Exploration, Land and Production

ARROWHEAD GRAYBURG UNIT
LEA COUNTY, NEW MEXICO

DLL 691

1"1000'

PLOTTED 27-NOV-1991 13:10

CH1914GE.DGN

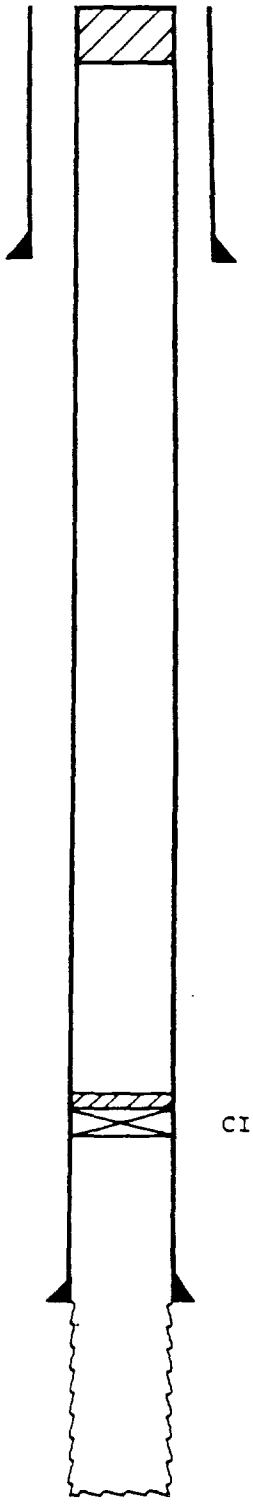
CURRENT

WELL DATA SHEET

LEASE Chevron H.T. Mattern (NCT-E) WELL NO. 5 FIELD P&A DATE 11/23/88

LOCATION 2310 FEET FROM N LINE AND 330 FEET FROM W LINE

SECTION 12 TOWNSHIP 22-S RANGE 36-E COUNTY Lea STATE NM



GE: 3501 '
KDB to GE 6.5 '
DF to GE 5 '

10 3/4" OD 32.75 & 51 lbs.
Surf. Pipe set @ 309 w/ 275 sx
cmt. Circ? Yes

CIBP @ 3642'

5 1/2 " OD
Gr C-45
14 # Csg set @ 3690 ' w/ 400 sx
Cmt. Circ? No
TOC @ 2475 by TS

PBD _____ '

TD 3785 '

Date Completed 5/27/39
Initial Formation Grayburg
FROM: 3690 TO: 3785
Initial Production 887 BOPD 0 BWPD
961 MCFPD 1083 GOR

Completion Data:
OH Completion

Subsequent Workover or Reconditioning:
6/27/50 - Installed gas lift.

12/10/52 - Installed rod pump.

4/26/63 - Closed-in.

12/8/65 - Set CIBP @ 3642' w/50 cmt on top. Spot 10 sx (80') plug surface to 80'.

Present Prod. _____ BOPD _____ BWPD
_____ MCFPD _____ GOR
_____ Date

Remarks or Additional Data:
5 1/2" casing in 7 7/8" hole
4 3/4" open-hole

TYPICAL PROPOSED

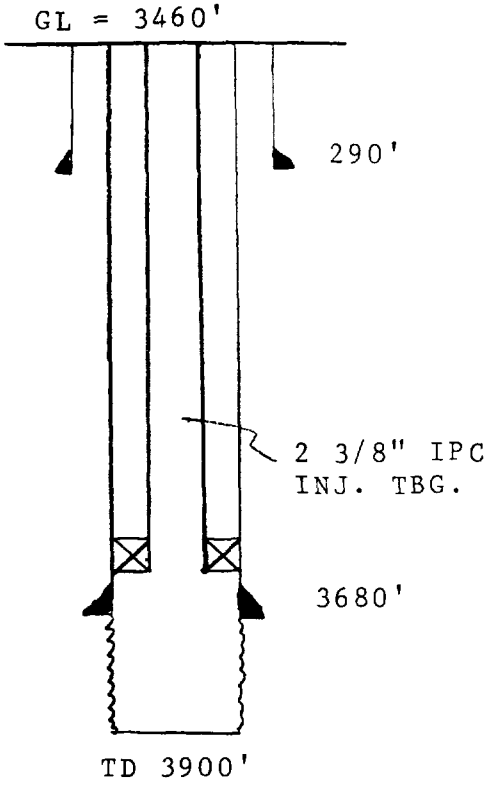
INJECTION WELL DATA SHEET

Chevron U.S.A. Inc. — OPERATOR
Arrowhead Grayburg Unit — LEASE

WELL NO. | FOOTAGE LOCATION | SECTION | TOWNSHIP | RANGE

Two strings casing with open hole.

SCHEMATICS



TUBULAR DATA

Surface Casing

Size 9-5/8" — Cemented with 215 sx
TOC Surf — feet determined by Circ.
Hole size 11"

Long String

Size 5-1/2" — Cemented with 400 sx
TOC 1546 — feet determined by Calc.

Hole size 7-7/8"
Total Depth 3900'

Injection Interval

3680 feet to 3900 feet
(open hole)

Tubing size 2-3/8" lined with IPC (Material) set in a Nickel Plated Baker Model AD-1 Tension (Brand and Model)
packer at 3580 feet (or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation Grayburg
2. Name of Field or Pool (if applicable) Arrowhead
3. Is this a new well drilled for injection? ___ Yes _X_ No
   If no, for what purpose was the well originally drilled? Oil Production
4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No
5. Give the depth in and name of any overlying and/or underlying oil or gas zones (pools) in this area. 2400' top of Jalmat, 2600' top of Eumont, 3300' top of Langlie Mattix, 5500' top of Blinebry, 6250' top of Tubb, 6500' top of Drinkard.

CURRENT

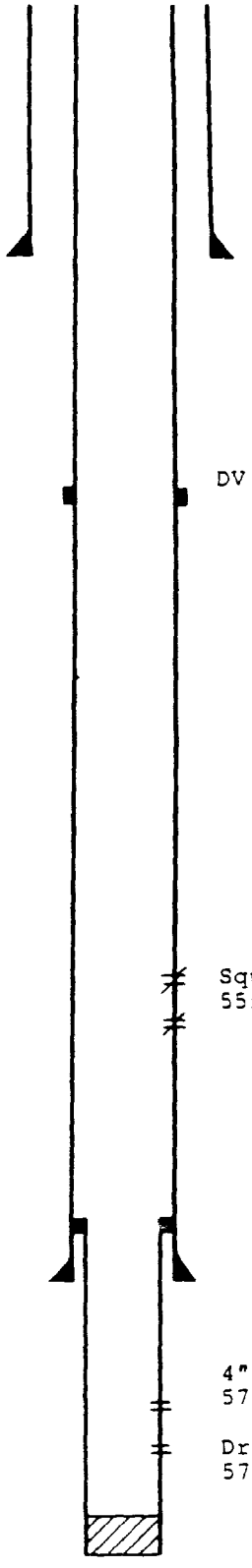
128

WELL DATA SHEET

LEASE Chevron H. Leonard (NCT-C) WELL NO. 15 FIELD Drinkard DATE 1/16/88

LOCATION 1650 FEET FROM N LINE AND 2013 FEET FROM E LINE

SECTION 36 TOWNSHIP 21-S RANGE 36-E COUNTY Lea STATE NM



GE: 3498 '
KDB to GE 11.5 '
DF to GE ____ '

8 5/8" OD 24 lbs.
Surf. Pipe set @
1235 w/ 400 sx
cmt. Circ? Yes

DV Tool @ 3919'

Squeezed Blinebry Perfs
5552'-5738'

5 1/2 " OD
Gr K-55
14 # Csg set @
5892 ' w/ 610 sx
Cmt. Circ? No
TOC @ 2270 by TS

4" 11.6# liner from
5786-6790 w/ 130 sxs.

Drinkard Perfs
5786-6790

PBD 6734 '
TD 6791 '

Date Completed 5/22/72
Initial Formation Blinebry
FROM: 5552 TO: 5738
Initial Production 122 BOPD 58 BWPD
nm MCFPD nm GOR

Completion Data:
Perf Blinebry. Acidize & frac.

Subsequent Workover or Reconditioning:
11/18/75 - Squeeze Blinebry. Deepen, run 4" liner 5786 - 6790' Perf Drinkard, acidize, frac.

10/7/76 - Re-perf Blinebry. Acidized Commingle production.

6/8/78 - Squeezed Blinebry perfs.

Present Prod. ____ BOPD ____ BWPD
____ MCFPD ____ GOR
____ Date

Remarks or Additional Data:
5 1/2" in 7 7/8" hole
4" liner in 4 3/4" hole

TYPICAL PROPOSED

INJECTION WELL DATA SHEET

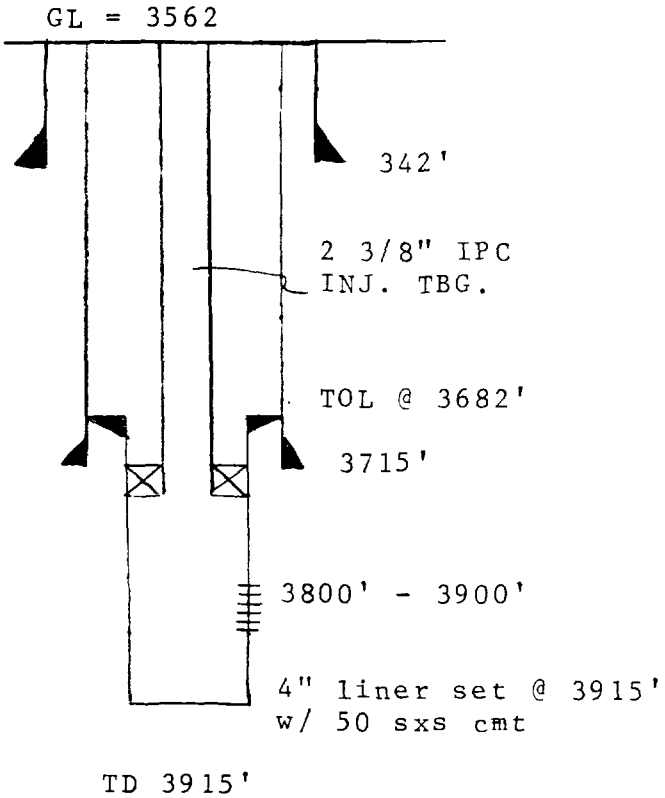
Chevron U.S.A. Inc. — OPERATOR

Arrowhead Grayburg Unit — LEASE

WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Two strings casing with liner.

SCHEMATICS



TUBULAR DATA

Surface Casing

Size 10-3/4" — Cemented with 250 sx
TOC Surf — feet determined by Circ.
Hole size 12-1/4"

Long String

Size 5-1/2" — Cemented with 900 sx
TOC Surface — feet determined by Calc.

Hole size 6-1/4"
Total Depth 3930'

Injection Interval

3800 feet to 3900 feet
(perforated)

Tubing size 2-3/8" lined with IPC (Material) set in a Nickel Plated Baker Model AD-1 Tension (Brand and Model) packer at 3700 feet (or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation Grayburg

2. Name of Field or Pool (if applicable) Arrowhead

3. Is this a new well drilled for injection? ___ Yes _X_ No
   If no, for what purpose was the well originally drilled? Oil Production

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No

5. Give the depth in and name of any overlying and/or underlying oil or gas zones (pools) in this area. 2400' top of Jalmat, 2600' top of Eumont, 3300' top of Langlie Mattix, 5500' top of Blinebry, 6250' top of Tubb, 6500' top of Drinkard.

Chevron U.S.A. Inc.
P.O. Box 1150, Midland, TX 79702

Permian Basin Production Business Unit
New Mexico District

DATE 6-11-92

TO: Ben Stone - OCD

LOCATION: Santa Fe, NM

FAX NO: (505) 827-5741

FROM: Al Bahling - Chevron

LOCATION: Midland, TX

NO. OF PAGES (INCLUDING COVER PAGE) 4

If transmission is interrupted or received incomplete, please contact Fax Operator at (915) 687-7754.

4th Floor, Production Department Fax Number (915) 687-7113
CTN Number (915) 687-7113

C-101's & C-103's for AGU #128 & 194 wells per your request.

Thank you

Al

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-101
Revised 1-1-89

to Appropriate District Office — 6 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

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

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
Arrowhead Grayburg Unit

2. Name of Operator
Chevron USA Inc. attn Ed Doherty

8. Well No.
194

3. Address of Operator
Box 1150, Midland, TX 79702

9. Pool name or Wildcat
Arrowhead/Grayburg

4. Well Location
Unit Letter E : 2310 Feet From The North Line And 330 Feet From The West Line

Section 12 Township 20S Range 36E NMPM Lea County

10. Proposed Depth 3750' 11. Formation Grayburg 12. Rotary or C.T.

13. Elevations (Show whether DF, RT, GR, etc.) 3501 GR 14. Kind & Status Plug. Bond 15. Drilling Contractor 16. Approx. Date Work will start 6-12-92

17. Existing PROPOSED CASING AND CEMENT PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEMENT	EST. TOP
	10 3/4	51	309	275	Surf
	5 1/2	14	3690	400	2475 T.S.

Deepen well to 3750' using 4 3/4" bit. Log. Equip. to pump mist & Brine Mud System

Well name changed from H.T. Mattern (NCT-E) #5.

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 E.O. Doherty TITLE T.A. Dclg DATE 5/29/91

TYPE OR PRINT NAME E.O. DOHERTY TELEPHONE NO. 687 7812

(This space for State Use)
Orig. Signed by.
Paul Kautz
Geologist

APPROVED BY _____ TITLE _____ DATE JUN 04 1992

CONDITIONS OF APPROVAL, IF ANY:

Permit Expires 6 Months From Approval Date Unless ~~Drilling~~ Underway.
Re-entry

Submit to Appropriate
District Office
Four 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)
30-025-24105

5. Indicate Type of Lease STATE [X] FEE [ ]

6. State Oil & Gas Lease No.
B-1732-1

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work:
DRILL [ ] RE-ENTER [ ] DEEPEN [ ] PLUG BACK [X]

b. Type of Well:
OIL WELL [ ] GAS WELL [ ] OTHER INJECTOR SINGLE ZONE [ ] MULTIPLE ZONE [ ]

7. Lease Name or Unit Agreement Name
ARROWHEAD GRAYBURG UNIT

2. Name of Operator
CHEVRON U.S.A. INC.

8. Well No.
128

3. Address of Operator
P O BOX 1150 MIDLAND, TX 79702 ATTN: P.R. MATTHEWS

9. Pool name or Wildcat
ARROWHEAD/GB

4. Well Location
Unit Letter G : 1650 Feet From The NORTH Line and 2013 Feet From The EAST Line

Section 36 Township 21S Range 36E NMPM LEA County

10. Proposed Depth	11. Formation	12. Rotary or C.T.
5715'	GRAYBURG	ROTARY

13. Elevations (Show whether DF, RT, GR, etc.)	14. Kind & Status Plug Bond	15. Drilling Contractor	16. Approx. Date Work will start
3498 GE		UNKNOWN	ASAP

17. ~~PROPOSED~~ EXISTING CASING AND CEMENT PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEMENT	EST. TOP
UNKNOWN	8 5/8"	24	1235	400	SURFACE
UNKNOWN	5 1/2"	14	5892	610	2270
UNKNOWN	4"	11.6	5786-6790	130	UNKNOWN

IT IS PROPOSED TO: Abandon Drinkard - recomplete to Grayburg & change lease name & well No.

MIRU PULLING UNIT, POOH WITH PRODUCTION EQUIP.
CHECK FOR ANY CASING LEAKS AND SQUEEZE WITH CEMENT IF NEEDED.
TIH AND SET A CIBP AT 5750', DUMP BAIL 35' OF CEMENT ON TOP OF CIBP.
NEW BPTD WILL BE AT 5715'. ABANDON DRINKARD.
RECOMPLETE IN THE GRAYBURG FORMATION.
PERF, ACIDIZE AND SWAB TEST.
TIH WITH INJECTION TUBING AND PACKER, SET AT ~~5600~~ 5600'.
CONVERT TO INJECTION.

WELL FORMER NAME: HARRY LEONARD (NCT-C) #15.

VERBAL APPROVAL OF PLUGS W/ PAUL KATZ PER TELCON ON 2-27-92

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 P.R. Matthews TITLE TECHNICAL ASSISTANT DATE 2-20-92

TYPE OR PRINT NAME P.R. MATTHEWS TELEPHONE NO 687-7812

(This space for State Use)

APPROVED BY ORIGINAL SIGNED BY JERRY SEXTON DISTRICT I SUPERVISOR TITLE ____ DATE FEB 24 '92

CONDITIONS OF APPROVAL, IF ANY:

R-9483 GB-Sas

P K Matthews
4115A

Submit 3 Copies to Appropriate District Office

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-103
Revised 1-1-89

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

API NO. (assigned by OCD on New Wells) 30-025-24105
5. Indicate Type of Lease STATE [X] FEE [ ]
6. State Oil & Gas Lease No. B-1732-1

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" (FORM C-101) FOR SUCH PROPOSALS.)

7. Lease Name or Unit Agreement Name: ARROWHEAD GRAYBURG UNIT

1. Type of Well: OIL WELL [ ] GAS WELL [ ] OTHER INJECTOR

2. Name of Operator: CHEVRON U.S.A. INC.

8. Well No. 128

3. Address of Operator: P.O. BOX 1150 MIDLAND, TX 79702 ATTN: P.R. MATTHEWS

9. Pool name or Wildcat: ARROWHEAD/GB

4. Well Location
Unit Letter G : 1650 Feet From The NORTH Line and 2013 Feet From The EAST Line
Section 26 Township 21S Range 36E NMPM LEA County

10. Elevation (Show whether DF, RKB, RT, GR, etc.)

Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK [ ]	PLUG AND ABANDON [ ]	REMEDIAL WORK [ ]	ALTER CASING [ ]
TEMPORARILY ABANDON [ ]	CHANGE PLANS [ ]	COMMENCE DRILLING OPNS. [ ]	PLUG AND ABAN. [ ]
PULL OR ALTER CASING [ ]		CASING TEST AND CMT JOB [ ]	
OTHER: [ ]		OTHER: PLUG BACK AND CONVERT TO INJECTION [ ]	

P-9687

12. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

MIRU. BOOM W/DROD. EQUIP. TIH W/CIBP AT 5525', SET 30 SX. CMT PLUG ON TOP.
TIH W/CICR SET AT 5472', SPOT 30 SX. CMT PLUG 5472-5352. SPOT 10 PPG MUD 5352-5104.
SPOT 30 SX. CMT PLUG 5140-4984. SPOT 30 SX. CMT PLUG 4027-3898.
PUH TO 3895, RD WITH 100 BBLS. OF 9 PPG CBW. LOG HOLE: PND-GR-CCL.
PERF WITH 4" GUNS, 120 DEG. PHSD, 3846-60, 3828-36, 3808-16, 60 HOLES
[illegible] W/2500 GALS OF 15% NEFE. SWAB BACK.
PERF 3672-3770, 140 HOLES. ACDZ PERFS WITH 250 GALS OF 15% NEFE. SWAB BACK ACID.
TIH AND SET INJECTION PACKER AT 3630', LOAD BACK SIDE WITH PACKER FLUID.
TEST CASING TO 560 PSI-OK. CONVERT TO INJECTION.
WORK ENDED ON 3-23-92.

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

SIGNATURE P.R. Matthews TITLE TECH. ASSISTANT DATE 05-28-92

TYPE OR PRINT NAME P.R. MATTHEWS TELEPHONE NO. (915)687 7017

APPROVED BY ORIGINAL SIGNED BY JERRY SEXTON TITLE [illegible] DATE APR 07 '92