

**TECHNICAL REPORT  
EVALUATION OF  
BITUMEN RESOURCES  
CADOTTE CENTRAL AND  
WEST LEASES**

Submitted to:  
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## 1 EXECUTIVE SUMMARY

This report was prepared by Norwest Corporation for Strata Oil and Gas Inc. (Strata). It contains an evaluation of Bitumen Resources for some of the Strata Oil and Gas leases in the Cadotte area of northern Alberta. These leases are located within the Peace River deposits of northwest Alberta. The portions of the leases addressed in this report are referred to as Cadotte Central and Cadotte West. The company holds other nearby oil sand leases that are referred to as Cadotte East; no bitumen evaluation has been made for Cadotte East as part of the present work. The resource estimates presented in this report are subject to risk as is explained in Section 9 of this report, “Disclaimer and Risk Warning”. The reader is cautioned to read and understand this section of the report. It should be clearly understood that there is no guarantee that all or any part of this resource will be produced in the future. This study is designed to comply with the requirements of National Instrument 51-101 and the resource classification scheme and criteria elaborated in the current edition, Volume 1, of the Canadian Oil and Gas Evaluation Handbook.

The leases that form Cadotte Central Area cover an area of twenty-nine sections located in Townships 86 and 87, Ranges 18 and 19 W5. The leases for Cadotte West cover an area of twenty-two sections located in Township 87, Range 20 W5. The stratigraphic zones addressed in the evaluation are the Bluesky/Gething clastic Cretaceous Formations and the Debolt/Elkton carbonate Carboniferous Formations. The region that includes the leases covers about seven hundred sections and inside that area there are a total of sixty-nine wells that were used in the present evaluation. However, none of these are located on the Cadotte West leases.

There are three well locations at Cadotte West, 16-17, 13-31 and 1-24, that were drilled on the leases or on the boundary of the leases. They were all drilled in 1950 or 1951 and there are no data records available for any of them.

The nature of the geology of the carbonate sequence in this area has a significant influence on the distribution of the bitumen resource. The carbonate units included relatively few reef building organisms and thus there was little tendency for irregular geological bodies such as reefs to form in this sequence in this area. From one well to the next the regular nature of the deposition that took place at this time is apparent and it is relatively easy to show the correlation that exists between the same units in adjacent wells in the target area. This feature of regular bed continuity is in strong contrast to the variability of the clastic units of the overlying Cretaceous sequence as seen in the

Athabasca region. It is also most noteworthy that the bitumen enrichment is strongly influenced by the bedded nature and continuity of the sediments. It is readily possible in many cases to show the same details of the enriched sequence in adjacent wells even when they are spaced a kilometre or more apart. An equivalent assurance of existence is achieved in this sequence with much wider spacing of wells than that used in the classification of bitumen resources for the Cretaceous surface mineable oil sand deposits presently being explored and developed near Fort McMurray.

The amount of exploration drilling and testing in the Cadotte Central area is sufficient for that part of the Peace River Oil Sand deposit to be classified as a Discovered Resource or Discovered Petroleum Initially in Place (PIIP). As the Cadotte West leases are not drilled, an estimate of the in-place resource is technically in the COGE classification of “Undiscovered”. However, it is the author’s opinion that there is sufficient evidence from the wells drilled in the surrounding areas for the judgement to be made that the bitumen bearing formations, the Bluesky, the Debolt and the Elkton, are all expected to be present on the Cadotte West leases. Hence, in this report, the in place bitumen resource on Cadotte West is considered to be Discovered PIIP and is classified as such. The classification of the Discovered PIIP into Low, Best and High categories was based on the following criteria:

- The Low Estimate includes all of the material that has a minimum grade of 8 wt% and a minimum thickness of 10 m. In order to identify the location of the highest grade ore, a second Low Estimate was also made. In this case the minimum grade was set at 10 wt% with the same minimum thickness of 10 m;
- The Best Estimate includes all of the material that has a minimum grade of 8 wt% but no minimum thickness; and
- The High Estimate includes all of the material without any grade or thickness constraint. Hence the latter is an estimate of the original bitumen in place for the zones under investigation.

A summary of the results of the estimates are presented on Table 1.1. This table shows the estimated PIIP for the Cadotte Central plus West leases.

**TABLE 1.1**  
**STRATA OIL & GAS**  
**CADOTTE CENTRAL PLUS CADOTTE WEST**  
**PETROLEUM INITIALLY IN PLACE (PIIP) MILLIONS OF BARRELS (MMSTB)**

<b>Formation</b>	<b>Low Estimate (10 wt% grade &amp; 10 m thick. minimum)</b>	<b>Low Estimate (8 wt% grade &amp; 10 m thick. minimum)</b>	<b>Most Likely Estimate (8 wt% grade minimum)</b>	<b>High Estimate</b>
Bluesky/Gething	N/A	275	545	682
Debolt	1,436	2,100	2,157	2,534
Elkton	N/A	N/A	709	1,008
<b>Total</b>	<b>1,436</b>	<b>2,375</b>	<b>3,411</b>	<b>4,225</b>

These estimates of Discovered PIIP were used to prepare estimates of potentially recoverable bitumen. The estimate for Cadotte Central is shown on Table 1.2.

**TABLE 1.2**  
**STRATA OIL & GAS**  
**CADOTTE CENTRAL PLUS CADOTTE WEST**  
**POTENTIALLY RECOVERABLE BITUMEN- CADOTTE CENTRAL AREA**  
**MILLIONS OF BARRELS (MMSTB)**

<b>Formation</b>	<b>Low Estimate (10 wt% grade minimum)</b>	<b>Low Estimate (8 wt% grade minimum)</b>	<b>Most Likely Estimate</b>	<b>High Estimate</b>
Bluesky/Gething	N/A	N/A	N/A	39
Debolt	222	245	390	571
Elkton	N/A	N/A	127	245
<b>Total</b>	<b>222</b>	<b>245</b>	<b>517</b>	<b>855</b>

The estimates for recoverable bitumen, shown on Table 1.2, for the Cadotte Central Area are classified as contingent.

The estimate for Cadotte West is shown on Table 1.3.

**TABLE 1.3**  
**STRATA OIL & GAS**  
**CADOTTE CENTRAL PLUS CADOTTE WEST**  
**POTENTIALLY RECOVERABLE BITUMEN- CADOTTE WEST AREA**  
**MILLIONS OF BARRELS (MMSTB)**

<b>Formation</b>	<b>Low Estimate (10 wt% grade minimum)</b>	<b>Low Estimate (8 wt% grade minimum)</b>	<b>Most Likely Estimate</b>	<b>High Estimate</b>
Bluesky/Gething	N/A	47	142	220
Debolt	22	112	171	392
Elkton	N/A	N/A	57	138
<b>Total</b>	<b>22</b>	<b>158</b>	<b>369</b>	<b>750</b>

The estimates for Recoverable Bitumen, shown on Table 1.3, for the Cadotte West Area are classified as prospective. This classification for the recoverable bitumen is due to the lack of drill testing for this lease area.

The accuracy of resource estimates is, in part, a function of the quality and quantity of available data and of engineering and geological interpretation and judgment. Given the data available at the time this report was prepared, the estimates presented herein are considered reasonable. However, they should be accepted with the understanding that additional data and analysis available subsequent to the date of the estimates may necessitate revision. These revisions may be material. There is no guarantee that all or any part of the estimated resources of bitumen will be recoverable.

Norwest makes no express or implied warranties or guarantees of any kind concerning this report; including without limitation any implied warranty of merchantability or fitness for a particular purpose. Specifically, Norwest makes no warranty or guarantee that any property identified in this report will produce oil and/or gas in any quantity, or that any property identified in this report will produce or receive any economic, commercial or other benefit.

## 2 INTRODUCTION

This report was prepared by Norwest Corporation for Strata Oil and Gas Inc. (Strata). It contains an evaluation of bitumen resources for some of the Strata Oil and Gas leases in the Cadotte area of northern Alberta. These leases are located within the Peace River deposits of northwest Alberta. The location of the Peace River deposits is shown on Figure 1 and the general location of Strata's leases, relative to those of other companies, is shown on Figure 2. This study is designed to comply with the requirements of National Instrument 51-101 and the resource classification scheme and criteria elaborated in the current edition, Volume 1, of the Canadian Oil and Gas Evaluation Handbook. Elsewhere in this report the latter is referred to as the COGE Handbook.

All of Strata's lease holdings in the Cadotte area are shown on Figure 3. These leases are referred to as Cadotte Central which was formerly referred to as the "Cadotte Target Area", Cadotte West and Cadotte East. The Cadotte Central and Cadotte West areas are contiguous lease blocks that adjoin each other. Cadotte East is a group of three lease areas that are not contiguous and that do not adjoin the Cadotte Central and West areas. The resource estimates in the present report only apply to the contiguous leases of the Cadotte Central plus Cadotte West area. No bitumen evaluation has been made for Cadotte East as part of the present work.

As the Cadotte West leases are not drilled, an estimate of the in-place resource in the COGE classification, is technically classed as "Undiscovered". However, it is the author's opinion that there is sufficient evidence from the wells drilled in the surrounding areas for the judgement to be made that the bitumen bearing formations, the Bluesky, the Debolt and the Elkton, are all expected to be present on the Cadotte West leases. Hence, in this report, the in place bitumen resource on these leases is considered to be Discovered PIIP and is classified as such. Despite the fact that the in place resource at Cadotte West has been classified as Discovered, the recoverable fraction is classified as Prospective. This is because there is no drilling and testing data on the Cadotte West leases.

The leases that form the Cadotte Central area cover an area of twenty-nine sections located in Townships 86 and 87, Ranges 18 and 19 W5, as shown on Figure 3. Those for Cadotte West cover an area of twenty-two sections located in Township 87, Range 20 W5.



The stratigraphic zones addressed in the evaluation are the Bluesky/Gething clastic Cretaceous Formations and the Debolt/Elkton carbonate Carboniferous Formations. The available data for this evaluation includes numerous “legacy wells” drilled by various operators over the years since the 1950’s. In addition, there are four wells drilled by Strata and three of these are located in the Cadotte Central area. All four of these wells were referenced during the course of the present study.

In 2008 the Cadotte Central area, then referred to as the Cadotte Target Area, was subject to an engineering evaluation that resulted in the publication by Norwest of a report, titled “Preliminary Feasibility Study of the Cadotte Leases, Alberta Canada (February 29, 2008)”. The work for that report included estimates of resources for both the Cretaceous and Carboniferous units and those estimates and their classification are retained in the present report.

### 3 GEOLOGY

The oil sand deposits in the Cadotte region include two principal stratigraphic sequences. These are illustrated on the stratigraphic table of Figure 4. The uppermost units that are bitumen impregnated are the Cretaceous Bluesky and Gething Formations. These clastic sand units are overlain by a thick sequence of mudstone of the Clearwater Formation that forms a seal over the underlying clastic bitumen ore bodies. Through the Cadotte area there is a major unconformity that occurs below the Bluesky/Gething sequence. At depth below the unconformity is an older sequence of clastic beds that forms the Permian Belloy Formation. Underlying this, separated by another unconformity, is a Carboniferous Mississippian sequence of the Rundle Group. In the Cadotte area the youngest formation of the Rundle Group is the Debolt Formation which is underlain by the Shunda and Pekisko Formations. The Debolt Formation consists of carbonate and mudstone beds. Locally at Cadotte the Debolt Formation includes two prominent bitumen impregnated carbonate units that are referred to as the Debolt and Elkton Members. In places through the Cadotte area erosion related to the unconformity has bevelled the Permian units and in those locations the Cretaceous sequence is in contact with the underlying Carboniferous, being separated by the unconformity.

In the Cadotte region clastic sands of the Bluesky/Gething sequence may be impregnated with bitumen to varying degrees of saturation. In some locations the bitumen grade and sand thickness is sufficient to consider these units to include bitumen ore bodies. Likewise, from place to place on Strata's Cadotte leases the bitumen grade and thickness of the Debolt and Elkton carbonate units satisfies the criteria necessary for these units to be considered to be bitumen ore. The Bluesky/Gething sand units appear to thicken to the west from the Cadotte East and Cadotte Target Areas and are believed to host bitumen deposits that may have commercial potential at Cadotte West. However the principal bitumen bearing deposits on all of Strata's leases occur in the Debolt Member. The nature of the geology of the carbonate sequence in this area has a significant influence on the distribution of the bitumen resource. The principal reference for the following discussion is the Alberta Research Council's publication, "Geological Atlas of the Western Canada Sedimentary Basin". As described above, one of the sequences that hosts the bitumen deposits is the Rundle Group of Lower Carboniferous age. The Rundle Group in this area includes three stratigraphic units which, in ascending order, are the Pekisko, Shunda and Debolt Formations. From place-to-place the Debolt Formation may also include another distinct unit, the Elkton Member. In the Cadotte region including the Cadotte West area, the Elkton Member is usually present, as long as the overlying unconformity with the Cretaceous sequence has not eroded the entire Debolt Formation

sequence. Although there are many intervals that are bitumen enriched in the Rundle sequence the principal enrichment zones occur in the upper half of the Debolt Formation but usually not right at the top, the Elkton Member, and, to a lesser extent, in the Shunda Formation. The high grade zones of carbonate bitumen enrichment are those that occur in the Debolt and Elkton Members.

All the beds dip gently to the west with those lying below the unconformity having a somewhat greater dip than those above it. This causes the sequence below the unconformity to be eroded to a greater degree to the east and to be less complete, compared with the west. These westerly dips are the result of post-depositional tectonic events and do not reflect the original orientation of the accumulation of sediment. The Carboniferous sequence of the Rundle assemblage accumulated as a result of a series of prograding events that developed in a southerly to south-westerly direction. The Carboniferous sequence mainly includes platform sediments that show generally shallower-water characteristics up-section. In a basinward direction the depositional facies proceed from beach and lagoonal environments through shoals of the shelf margin to marine basin muds. The lithologies that result include high energy siliciclastics of the beach environment, through various types of carbonates on the platform and its slope to shale in the deep marine environment. There even appear to be beds present that have the character of unconsolidated coarse sediments. Several transgressive events therefore resulted in the accumulation of clastic sediments interbedded with carbonate units.

The carbonate units included relatively few reef building organisms and thus there was little tendency for irregular geological bodies such as reefs to form in this sequence in this area. From one well to the next the regular nature of the deposition that took place at this time is apparent and it is relatively easy to show the correlation that exists between the same units in adjacent wells in the target area. This feature of regular bed continuity is in strong contrast to the variability of the clastic units of the overlying Cretaceous sequence as seen in the Athabasca region. It is also most noteworthy that the bitumen enrichment is strongly influenced by the bedded nature and continuity of the sediments. It is readily possible in many cases to show the same details of the enriched sequence in adjacent wells even when they are spaced a kilometre or more apart.

## 4 DATA AVAILABILITY

With respect to available drilling data, the leases in the Cadotte area as a whole are drilled at an average spacing of one well per section. However, not all of these existing wells were drilled to investigate the sequence examined in the present evaluation and the distribution is highly variable. The effective average spacing with wells that have penetrated the Carboniferous sequence is about 0.8 wells per section in the Cadotte Central area. However it should be noted that there are no wells with data on any part of the sequence located on the Cadotte West leases. All of the data locations for the Cadotte region are shown on Figure 3.

The quality of the data from the wells of different vintage is, however, quite variable. Several of the wells were drilled in the 1950's. The drilling records and logs for these wells are usually very poor or absent or they may be less complete than those of more recently drilled wells. A database search was done to identify higher quality data which was restricted to wells drilled since 1970 and this, plus the new Strata wells was used as the primary reference data. A total of eighteen wells of this vintage are located on or immediately adjacent to the Cadotte Central lease block. The well log data from these wells is the primary source of information on the leases available for the present evaluation but this was supplemented by high quality data from a further thirty-nine more distant wells in the region.

The Cadotte West area, shown on Figure 3, has not yet been drilled but there are a number of legacy wells that have some application to this area located mostly to the east but more sparsely in other surrounding areas. These provided data on the bitumen ore deposits of both the Bluesky/Gething and Debolt/Elkton sequences. In the present report a total of twenty-seven wells have been examined and found to have data that is suitable for the present study.

An area of about twenty townships was defined immediately around the Strata leases as a whole. From within this area core analysis data was used to confirm the well log derived porosity values and to calibrate values of grade. The final calibrated values were used for the estimation of Discovered PIIP. The higher quality primary reference well data was supplemented wherever possible by reference to the older pre-1970's wells. Often this data could be used to confirm depth and thickness of the target intervals. On occasion it could be used to confirm local values of porosity and, rarely, oil saturation. These are the data that were used to develop computer models of the different stratigraphic units and to make volumetric estimates.

## 5 GEOLOGICAL INTERPRETATION

Figure 3 shows the area addressed in the evaluation of the Cadotte Central plus Cadotte West areas. The map area, referred to as the Cadotte region, includes all of Strata's leases as shown, and these cover about seven hundred sections. Inside that area there is a total of sixty-nine wells that were used in the evaluation and a further twenty-two wells were also reviewed in this process. Of the sixty-nine wells, eighteen have core analysis from legacy data over the intervals of interest that is useful for the calibration of the geophysical log responses and from the wells drilled by Strata in 2007. The core values may include porosity, pore volumes of oil and water, oil and water saturation values and bulk mass of oil and water. It is rare for all of these parameters to be quantified in the analysis records of any given well; most commonly the core values simply include porosity and water and oil saturation values. The remaining values, if needed, usually have to be determined from log data.

Wherever possible, the data for wells closest to the lease that is the target for evaluation are used before more remote data are considered. In the case of the Cadotte West area, log and laboratory measurements in eighteen wells that are located on the Cadotte Central leases or adjacent to them were used for calibration purposes. These locations are also shown on Figure 3. As the figure shows, four of these wells include both core and log data and, because of the quality of the data available for them, they became the primary calibration references for oil saturation or grade information; the other wells with core data were reviewed to ensure that the values in these three wells were representative for the area. Figure 5 shows plots comparing key log responses for the stratigraphic interval that includes the target formations.

Figures 5 also illustrates the log responses that have been used for correlation of the target formations, and thus for the determination of their thickness from place-to-place. Figure 3 shows the location of fifty-seven wells which were used for the determination of the thickness variation in the area. Figures 6, 10 and 14 are ore zone isopach maps for the Bluesky/Gething, the Debolt and Elkton ore zones, respectively extrapolated to the Cadotte West leases. These thickness values are not necessarily those of the formation or member thickness but rather the thickness of selected bitumen resource intervals within those formations. The thickness values were determined by reference to the core and log responses. The principal log parameters used in this process are the gamma and resistivity values from the induction logs, but other log responses were referenced where necessary. A small database table was prepared from this information and this is presented as Table A-1 of Appendix A. All of the oil saturation values were recalculated if necessary for

compilation as values in “grade wt%”. Contour plots of the grade for the resource intervals were prepared from these data and the results are shown on Figures 8, 12 and 16. Figures 7, 11, and 15 show the porosity of the Bluesky/Gething, Debolt and Elkton and Figures 9, 13 and 17 show oil saturation contours for the same sequences. There are two further maps for the Debolt. These show the bitumen grade at a 10 m and 8 wt % minimum cut-off and at a 10 m and 10 wt % minimum cut-off, respectively. These illustrations are included as Figures 18 and 19.

There are no core data available for wells located in the Cadotte West area. Hence there are no oil saturation and porosity contours that have been shown for that area. There is a significant amount of data for bitumen enriched zones in all three units in wells adjacent at various distances to the Cadotte West leases. These values have been used to extend the original isopach contours from the Cadotte Central area maps to those areas. The original Cadotte Central grade values have also been extended to address Cadotte West. There is clearly less analytical data for Cadotte West as compared with Cadotte Central and this has been taken into consideration in the classification of resources discussed in the next section of this report.

## **6 IN PLACE RESOURCE CLASSIFICATION AND ESTIMATION METHODOLOGY**

Compared with many other hydrocarbon deposits, the Peace River Oil Sands have been intensely explored over several decades. The distribution of the deposit is so well known that it is often possible, even using public data, to determine various economic and technical properties of the field from place-to-place. On this basis, most of the field is considered to be a Discovered Resource. This classification is consistent with the description of Discovered Resources in the COGE Handbook which are described as “those quantities of oil and gas estimated on a given date to be remaining in ... known accumulations”. The amount of exploration drilling and testing on the Cadotte area is sufficient for that part of the Peace River Oil Sand deposit to be classified as a Discovered Resource.

### **6.1 COGH ASSURANCE OF EXISTENCE CLASSIFICATION**

In the classification scheme of the COGE Handbook which applies to Reserves and Resources reported under NI 51-101, Resources are subdivided into three classes that reflect the confidence level that can be assigned to the quantities that are expected to be recovered from a particular deposit. The categories are referred to as “Low Estimate”, which is the most conservative, through realistic or “Best Estimate” to “High Estimate”, which is the most optimistic. This procedure is analogous to that for the classification of Reserves in the same system. In that case, the Proven Estimate is considered conservative, the Proven plus Probable Estimate is considered realistic and the Proven plus Probable plus Possible Estimate is considered optimistic.

In this classification scheme, the terms Proven, Probable and Possible refer to different levels of confidence for Reserve classification. The terms Measured, Indicated and Inferred are used for Resource classification and have the same confidence connotation as Proven, Probable and Possible, respectively.

In the reporting procedure for NI 51-101, Measured, Indicated and Inferred resources are combined such that the Low Estimate includes Measured, Best Estimate includes Measured plus Indicated and High Estimate includes Measured plus Indicated plus Inferred. These relationships are illustrated on Table 6.1.

**TABLE 6.1**  
**STRATA OIL & GAS**  
**CADOTTE CENTRAL PLUS CADOTTE WEST**  
**RESOURCE CONFIDENCE CLASSIFICATION SCHEMES**

<b>Material Category</b>	<b>COGEH Nomenclature for NI 51-101</b>	<b>CIM Mineral Nomenclature</b>
	<b>Confidence Level</b>	<b>Confidence Level</b>
<b>RESOURCES</b>	Low Estimate	Measured
	Best Estimate	Measured Plus Indicated
	High Estimate	Measured Plus Indicated Plus Inferred

## **6.2 DISCOVERED RESOURCE ESTIMATION APPROACH**

As was discussed in Section 3, the bitumen enrichment zones in the Cadotte area have much greater continuity of their character than is normally found for the Cretaceous clastic oil sand deposits. After inspection of the well data distribution and based on the criteria described above, it was determined that the existing distribution is sufficient for the resource to be classified as Discovered. The classification of the Discovered Resource into Low, Best and High categories was thus based on other criteria.

The Low Estimate includes all of the material that has a minimum grade of 8 wt% and a minimum net thickness of 10 m. The Best Estimate includes all of the material that has a minimum grade of 8 wt % but no minimum thickness, and the High Estimate includes all of the material without any grade or thickness constraint. Hence the latter is an estimate of the original bitumen in place for the zones under investigation.

In order to identify and highlight the most prospective parts of the deposit a second, more stringent, low estimate was made. In this case the minimum net ore thickness of 10 m as before was used but a grade minimum of 10 wt% was also applied.



The resource estimate was produced using computer systems for the estimation of ore volumes. The data for thickness and grade were used to produce surfaces with the values at individual wells controlling the shape of the surfaces. The values between different surfaces were converted to volumes or grade distribution depending on the parameter being evaluated. These estimates were confined to a limit which was either the lease boundary or a selected cut-off value.

### **6.3 DETERMINISTIC ESTIMATE OF THE PETROLEUM INITIALLY IN-PLACE (PIIP)**

The following describes the in-place geological estimate of the bitumen resource on the Cadotte leases, including the contiguous lease blocks that form Cadotte Central plus Cadotte West; no estimate has been made for the separate leases of Cadotte East. The locations of these areas are shown on Figure 3. Norwest used a deterministic approach to produce the various resource estimates.

Due to the lack of detailed oil production data within the Cadotte area and limited reservoir data, the volumetric method was used to estimate a distribution of the original bitumen-in-place (PIIP). This method was used to develop Low, most likely or Best, and High estimates of the original bitumen-in-place (PIIP). The analogy method was later used to estimate a range of recovery factors and recoverable resources for the leases.

#### **6.3.1 Input Parameters**

The deterministic method involves developing Low, most likely or Best, and High estimates for the variables in the volumetric formula used to calculate Discovered PIIP. The Low, Best, and High Discovered PIIP estimates were based on the following parameters:

- The thickness of the formation was determined from logs using a minimum grade of 8 wt %;
- The Low Estimate includes all of the area that has a minimum grade of 8 wt% and a minimum thickness of 10 m;
- The Most Likely or Best Estimate includes all of the area that has a minimum grade of 8 wt % but no minimum thickness; and
- The High Estimate includes all of the area without any grade or thickness constraint.

All of the above estimates are based on core and log analysis to yield a Discovered PIIP determination. A second Low Estimate was then made for the Debolt ore zone using a minimum grade cut-off of 10 wt%.

## Discovered PIIP

The following equation was utilized to obtain the Discovered PIIP estimate for the Cadotte Central plus West areas:

$$\text{PIIP} = \frac{6.29 * \text{Area} * \text{Thickness} * \text{Porosity} * \text{Oil Saturation}}{\text{Formation Volume Factor}}$$

Where:

- Discovered PIIP = Original Bitumen in-place, barrels (42 U.S. gal/bbl)
- Area = Estimated potentially productive area (m<sup>2</sup>)
- Thickness = Estimated potentially productive average thickness (m)
- Porosity = Average pore volume/unit rock volume
- Oil Saturation = Average oil saturation in pore volume
- Formation Volume Factor = Reciprocal of Bitumen shrinkage when it is extracted, Reservoir volume/Surface volume.

## Area and Thickness

The target zones in the Cadotte area were mapped based on geologic interpretation from public data sources as well as core and log data from new and old wells in the area. Figures 6, 10 and Figure 14 are isopach maps for the Bluesky/Gething, Debolt and Elkton ore zones, respectively.

## Porosity

Porosity maps were developed for the targets zones using core and well log data. Figures 7, Figure 11 and Figure 15 are such maps for the Bluesky/Gething, Debolt, and Elkton units, respectively.

The porosity of the Bluesky/Gething zone varies throughout the Cadotte area with an average in excess of 18 %. The Debolt Formation porosity varies to a lesser degree than the Bluesky/Gething in the lease area and averages over 24 %. The Elkton porosity varies even less than does the Debolt and averages about 20 % within the for the Cadotte area.

## Bitumen Grade and Oil Saturation

Norwest estimated oil saturation and bitumen grade for the target zones, based on core and well log data. Based on these data and analyses, Norwest developed bitumen grade maps for the target zones and the results are shown on Figures 8, Figure 12 and Figure 16 for the

Bluesky/Gething, Debolt, and Elkton units, respectively. Figure 9, Figure 13 and Figure 17 are oil saturation maps for the Bluesky/Gething, Debolt, and Elkton units, respectively.

As noted above, the Bluesky/Gething Formation generally has lower bitumen grade, when compared with the Debolt Member, in the Cadotte region. The grade of this unit is less than 10 wt% throughout the lease area and is greater than 8 wt%, based on the extrapolation of limited data, only in the western part of the leases.

The Debolt Member has a high bitumen grade of over 10 wt%, on average, throughout the Cadotte Central Area; the high values of grade and the thickness of the Debolt Member make it an attractive target zone for potential development in this area. However, the Debolt grade declines to the west as is projected on the Cadotte West Area. The Discovered PIIP distribution for this ore zone at a cut-off of 8 wt% and 10 wt% is shown on Figures 18 and 19, respectively.

The Elkton Member has a relatively high bitumen grade that varies slightly throughout the Cadotte Central area with an average of over 8 wt%. However, the bitumen grade is extrapolated to decline to the west on the Cadotte West area where it is shown to be mostly less than 8 wt%.

The data for oil saturation of the Bluesky/Gething Formation is limited and only applies to the Central Cadotte area. This formation appears to have highly variable and relatively low oil saturation throughout the Central Cadotte Area where it is generally less than 30 %.

The Debolt Member not only has less variability of oil saturation than does the Bluesky/Gething zone but oil saturation is also much higher, being greater than 65% on average, throughout the Cadotte Central Area. The oil saturations in the Elkton Member have less variability across the Cadotte Central Area than the Debolt Member or Bluesky/Gething zone with an average in excess of 60%.

### **Formation Volume Factor**

Since no in-situ samples of the oil have been obtained, Norwest estimated the formation volume factor (“FVF”) for the Cadotte area as a whole based on an analogy to other bitumen reservoirs in the area. The reservoir temperature is about 20<sup>0</sup>C and there is very little evidence of any gas in the oil samples. Therefore, Norwest estimated the formation factor would be low in the range of 1.01 to 1.05 reservoir barrels per stock tank barrel. The criteria and procedures discussed above have been used to estimate the Discovered PIIP for the

Cadotte Central and West leases held by Strata. The results of the estimation and classification of the bitumen resource are presented in Section 8 of this report.

## **7 RECOVERABLE RESOURCE CLASSIFICATION AND ESTIMATION METHODOLOGY**

In this section of the report the classification and estimation of recoverable bitumen is presented. The recoverable estimates are classified in accordance with the procedures and systems given in the COGE Handbook.

As with the in place bitumen resource estimates, the preliminary feasibility study of 2008 that addressed the Cadotte Central part of the lease provided a recoverable resource estimate for that area. The quantities of those estimates remain unchanged and are incorporated into the results that are later presented.

For the Cadotte West part of the leases a new recoverable resource estimate has been made and this has been separately classified. The results of this are presented in the following section of the report. The discussion of the results provides an explanation of the reasons for the classification of these resource estimates.

### **7.1 DETERMINISTIC ESTIMATE OF POTENTIALLY RECOVERABLE BITUMEN**

The estimate of Discovered PIIP described in the previous section was used as the foundation for a new estimate of potentially recoverable bitumen.

The procedures used to prepare this estimate are discussed in this section. Some aspects also require further discussion of the procedures from the earlier report and those are included as needed in this section. In general they address issues of importance to the determination of recoverability.

#### **7.1.1 Input Parameters**

As with the estimation of the Discovered PIIP, the deterministic method was used for the estimation of potentially recoverable bitumen. The potentially recoverable resource portion is estimated from the Discovered PIIP tabulated in Section 8.1 by using the same Low, Best, and High categories. Applicable recovery factors were determined by considering “closest analogues” and these factors were then used in the estimation of potentially recoverable resources. Criteria considered in this estimate are described below.

## **Potentially Recoverable Resources**

The estimate of potentially recoverable resources was obtained by multiplying the Discovered PIIP times a recovery factor.

## **Recovery Factors**

Norwest investigated two methods, conceptual reservoir simulation and analogy, for estimating recovery factors based on Horizontal Cyclic Steam (HCS) in a J-well configuration. Norwest was not able to obtain acceptable results based on a conceptual simulation. HCS involves injecting steam at a high pressure to fracture the reservoir. The conceptual reservoir simulation is difficult to perform due to the geomechanical effects of the fracture stimulation in the reservoir. A paper presented by Shell highlighted the difficulty of simulating this process using J-Wells and the fact that they decided to test J-Well performance directly in the field.

As a result of the difficulties of producing a valid conceptual reservoir simulation of HCS, the analogy method to estimate recovery factors was used. As previously mentioned, Shell's nearby Carmon Creek project was used as an analogy for the Cadotte leases; currently the only recovery factors available for HCS in a J-well configuration are those presented by Shell on their Carmon Creek project application. This project appears to have comparable characteristics to those of the Cadotte lease. Shell presents recovery factors between 17% and 22% for high pressure Cyclic Steam Stimulation (CSS) using single horizontal wells, both J-Well and flat wells. However, Shell relates their recovery factors to a gross, and not an effective PIIP estimate. Therefore, Norwest conducted a literature review of projects operating in the Alberta Oil Sands utilizing high pressure CSS in horizontal wells to obtain a broader spectrum of recovery factors applicable to the Cadotte lease. The goal of this investigation was to clarify the nature and/or probabilities associated with Shell's recovery factors and relate the recovery factors to an effective PIIP estimate. Three companies in Alberta are using CSS, two of which are located in the Cold Lake area:

- Imperial Oil at the Cold Lake Project;
- Canadian Natural Resources Limited (“CNRL”) at the Wolf Lake and Primrose Projects; and
- Shell in the Peace River area

Imperial Oil predicts ultimate recoveries of 26% while CNRL estimates recoveries between 20% and 25%. Imperial further states that predicted ultimate recoveries will be

38% of effective PIIP which is 50% higher than the 26% recovery factor based on gross PIIP.

Based on the analogy method with an adjustment for difference between gross and effective PIIP calculations, Norwest estimated the following recovery factors for application to the effective PIIP deterministic cases:

- 17% for the Low estimate
- 26% for the most likely or Best estimate, and
- 38% for the High estimate.

## **7.2 CLASSIFICATION OF POTENTIALLY RECOVERABLE RESOURCES**

The probability of encountering bitumen reservoirs is high in the geological sequence evaluated in the Cadotte area. Therefore the judgment has been made that there are sufficient data available to classify the PIIP as Discovered.

In many circumstances the recoverable portion of the Discovered PIIP might be classified as a Contingent Resource. However, there are circumstances where a Prospective Resource classification for the recoverable fraction from an in place Discovered is appropriate. Such circumstances can occur when there is judged to be insufficient technical data and/or data unreliability concerning the technical aspects of bitumen recovery even though there is adequate justification for an in place Discovered PIIP classification. Such is the case at Cadotte West.

This was also the case for the classification of the recoverable bitumen component when the prefeasibility study for the Cadotte Central area was completed in 2008. At that time Norwest had little technical information concerning practical pilot testing of bitumen bearing carbonate deposits. After completion of the engineering study a detailed search was made of relevant pilot test data and several test sites, and historic technical performance data concerning them, was found. These tests showed that the recovery of bitumen from suitable bitumen pilots has been achieved in the past. The most important work of this type is that of AOSTRA, at the time a bitumen technical research agency of the Alberta Provincial government. The carbonate bitumen pilot projects of AOSTRA were constructed in the Grosmont carbonate deposit located close to the Cadotte leases. While the Grosmont carbonate is Devonian in age and the Debolt carbonate is Carboniferous, the physical attributes of both are quite similar. In addition a new bitumen carbonate pilot is currently being operated in the same area and the initial summary of the

test results are positive. The new pilot, being jointly constructed by Laricina Energy Ltd. and Osum Oil Sands Corp., is applying new technology and systems that were not available at the time of the AOSTRA pilots. Based on the brief public information that is available for this pilot, it appears that these techniques are having a positive impact on the overall bitumen recovery from this bitumen-bearing carbonate deposit. As a result it is Norwest's judgement that the recoverable estimate of the Cadotte Central area can be classified as Contingent.

The evaluation results in the present study show that these conditions and constraints also appear to occur in the Cadotte West area. However, there is clearly a significantly lower level of technical and test results for Cadotte West and the area is yet to be drilled and tested by Strata. Thus the estimates in that area, while based on the same criteria as those applied to Cadotte Central, are nevertheless classified as Prospective at the present time. The results for the estimation process for both in place Discovered PIIP and for the Recoverable fractions are presented in the next section of this report.



## 8 RESULTS

### 8.1 ESTIMATION AND CLASSIFICATION RESULTS FOR DISCOVERED PIIP

In the following sections estimates for the in-place Discovered PIIP for the Cadotte Central plus West leases are presented. All the in-place estimates are classified as Discovered in accordance with COGE Handbook definitions.

#### 8.1.1 Discovered PIIP Results for Cadotte Central

The Cadotte Central area has estimated Discovered PIIP as follows. A Low estimate is presented at a minimum thickness of 10 m for the ore interval and at 8 wt% bitumen cutoff grade. This information, as shown in Table 8.1, was originally presented in an earlier Technical Report of August, 2007.

In the Bluesky/Gething unit the results indicate that there are some areas where grades above the threshold of 8 wt% occur. These are somewhat scattered in Cadotte Central and no areas where especially high grade results were found. However the grade appears to be consistently greater than 8 wt% in the southern part of the Cadotte West area. In the same location the ore thickness achieves its greatest values.

However, for the Debolt/Elkton Formations, the results of the evaluation are quite different. It is noteworthy that much of the ore in the Debolt Formation on the Cadotte Central area exceeds a grade of 10 wt%. Consequently a second estimate was made for the Low Estimate that was cut-off at a minimum grade of 10 wt%. At 8 wt% and 10 wt % the Low Estimate of the Discovered Resource is 1,443.5 Bbbls and 1,304.1 Bbbls, respectively. The Best Estimate and the High Estimate are 1,990.0 Bbbls and 2,251.0 Bbbls respectively.

**TABLE 8.1**  
**STRATA OIL & GAS**  
**CADOTTE CENTRAL PLUS CADOTTE WEST**  
**DISCOVERED PIIP FOR THE CADOTTE CENTRAL AREA**  
**MILLIONS OF BARRELS (MMSTB)**

Formation	Low Estimate (10 wt% grade minimum)	Low Estimate (8 wt% grade minimum)	Most Likely Estimate	High Estimate
Bluesky/Gething	N/A	N/A	N/A	103
Debolt	1,304	1,443	1,500	1,503
Elkton	N/A	N/A	490	644
<b>Total</b>	<b>1,304</b>	<b>1,443</b>	<b>1,990</b>	<b>2,251</b>

### 8.1.2 Discovered PIIP Results for Cadotte West

The Cadotte West area has estimated Discovered PIIP tabulated as below in Table 8.2. As with the Cadotte Central area, two Low estimates are presented, both at a minimum thickness of 10 m for the ore interval but at 10 wt% and 8 wt% bitumen cutoff grade, respectively.

**TABLE 8.2**  
**STRATA OIL & GAS**  
**CADOTTE CENTRAL PLUS CADOTTE WEST**  
**DISCOVERED PIIP FOR THE CADOTTE WEST AREA**  
**MILLIONS OF BARRELS (MMSTB)**

Formation	Low Estimate (10 wt% grade minimum)	Low Estimate (8 wt% grade minimum)	Most Likely Estimate	High Estimate
Bluesky/Gething	N/A	275	545	579
Debolt	132	657	657	1,031
Elkton	N/A	N/A	219	364
<b>Total</b>	<b>132</b>	<b>932</b>	<b>1,421</b>	<b>1,974</b>

### 8.1.3 Discovered PIIP Results for Cadotte Central plus Cadotte West

Table 8.3 shows the Discovered PIIP for the combined contiguous Cadotte Central plus West leases. As before, two Low estimates are presented, both at a minimum thickness of 10 m for the ore interval but at 10 wt% and 8 wt% bitumen cutoff grade, respectively.

**TABLE 8.3**  
**STRATA OIL & GAS**  
**CADOTTE CENTRAL PLUS CADOTTE WEST**  
**DISCOVERED PIIP FOR THE CADOTTE CENTRAL PLUS CADOTTE WEST AREA**  
**MILLIONS OF BARRELS (MMSTB)**

Formation	Low Estimate (10 wt% grade minimum)	Low Estimate (8 wt% grade minimum)	Most Likely Estimate	High Estimate
Bluesky/Gething	N/A	275	545	682
Debolt	1,436	2,100	2,157	2,534
Elkton	N/A	N/A	709	1,008
<b>Total</b>	<b>1,436</b>	<b>2,375</b>	<b>3,411</b>	<b>4,225</b>

The uncertainty in the geologic and reservoir data has been taken into consideration in Norwest's definition of Low, Best, and High estimates of Discovered PIIP. This approach allows for the consideration of Low Estimate resources for planning purposes while gaining an understanding of what volumes of resources may have certainty and what the potential upside may be for the project.

## 8.2 ESTIMATION AND CLASSIFICATION RESULTS FOR RECOVERABLE BITUMEN

In the following sections estimates and classification of the recoverable bitumen for the Cadotte Central and Cadotte West leases are presented.

### 8.2.1 Recoverable Bitumen Estimate for Cadotte Central

The recoverable resource estimates for Cadotte Central as presented in the 2008 preliminary feasibility study are shown on Table 8.4.

**TABLE 8.4**  
**STRATA OIL & GAS**  
**CADOTTE CENTRAL PLUS CADOTTE WEST**  
**POTENTIALLY RECOVERABLE BITUMEN- CADOTTE CENTRAL AREA**  
**MILLIONS OF BARRELS (MMSTB)**

Formation	Low Estimate (10 wt% grade minimum)	Low Estimate (8 wt% grade minimum)	Most Likely Estimate	High Estimate
Bluesky/Gething	N/A	N/A	N/A	39
Debolt	222	245	390	571
Elkton	N/A	N/A	127	245
<b>Total</b>	<b>222</b>	<b>245</b>	<b>517</b>	<b>855</b>

## 8.2.2 Recoverable Bitumen Estimate for Cadotte West

A recoverable resource estimate was prepared for the Cadotte West area and the results are shown on Table 8.5. The recovery factors used for each class were the same as those used for Cadotte Central.

**TABLE 8.5**  
**STRATA OIL & GAS**  
**CADOTTE CENTRAL PLUS CADOTTE WEST**  
**POTENTIALLY RECOVERABLE BITUMEN- CADOTTE WEST AREA**  
**MILLIONS OF BARRELS (MMSTB)**

Formation	Low Estimate (10 wt% grade minimum)	Low Estimate (8 wt% grade minimum)	Most Likely Estimate	High Estimate
Bluesky/Gething	N/A	47	142	220
Debolt	22	112	171	392
Elkton	N/A	N/A	57	138
<b>Total</b>	<b>22</b>	<b>158</b>	<b>369</b>	<b>750</b>

### **8.2.3 Classification of Recoverable Bitumen Estimates**

As previously discussed, the estimate of recoverable bitumen for Cadotte Central, as shown on Table 8.4, is classified as Contingent. However, due to a general lack of data that is reliable at Cadotte West the recoverable bitumen as shown on Table 8.5, is classified as Prospective.

## 9 DISCLAIMER AND RISK WARNING

The accuracy of resource estimates is, in part, a function of the quality and quantity of available data and of engineering and geological interpretation and judgment. Given the data available at the time this report was prepared, the estimates presented herein are considered reasonable. However, they should be accepted with the understanding that additional data and analysis available subsequent to the date of the estimates may necessitate revision. These revisions may be material. There is no guarantee that all or any part of the estimated resources of bitumen will be recoverable.

Norwest makes no express or implied warranties or guarantees of any kind concerning this report; including without limitation any implied warranty of merchantability or fitness for a particular purpose. Specifically, Norwest makes no warranty or guarantee that any property identified in this report will produce oil and/or gas in any quantity, or that any property identified in this report will produce or receive any economic, commercial, or other benefit.

**CERTIFICATE OF QUALIFICATION**

I, Geoff R. Jordan, Professional Geologist of Suite 2700, 411- 1<sup>st</sup> Street SE, Calgary, Alberta, Canada, hereby certify:

1. I am an employee of Norwest Corporation, which prepared an analysis of the Canadian oil sand properties of Strata Oil and Gas Inc. The effective date of this evaluation is November 21, 2012.
2. I do not have, nor do I expect to receive, any direct or indirect interest in the securities of Strata Oil and Gas Inc. or its affiliated companies.
3. I attended the University of New South Wales and I graduated with a Bachelor of Science Degree in Geology in 1971; I am a Registered Professional Geologist in the Province of Alberta; and I have in excess of eleven years' experience in the conduct of evaluation studies relating to Canadian oil sands deposits.
4. I am responsible for the preparation of all sections of the report titled "Technical Report, Evaluation of Bitumen Resources, Cadotte Central and West Leases" dated May 10, 2013, (the "Technical Report").
5. A personal field inspection of the properties was not made; however, such an inspection was not considered necessary in view of the information available from Norwest Corporation's field exploration crews, public information and records, the files of Norwest Corporation and Strata Oil and Gas Inc., and the appropriate provincial regulatory authorities.

Dated at Calgary, Alberta this 10<sup>th</sup> day of May, 2013.

**"ORIGINAL SIGNED AND SEALED BY AUTHOR"**

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Geoff Jordan, P.Geol.  
Senior Geologist  
Norwest Corporation

**APPENDIX A**

**RESOURCE DATABASE**

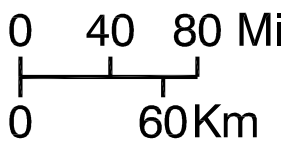


**Table A1**  
**Strata Oil & Gas Inc.**  
**Cadotte Leases**  
**Resource Database**

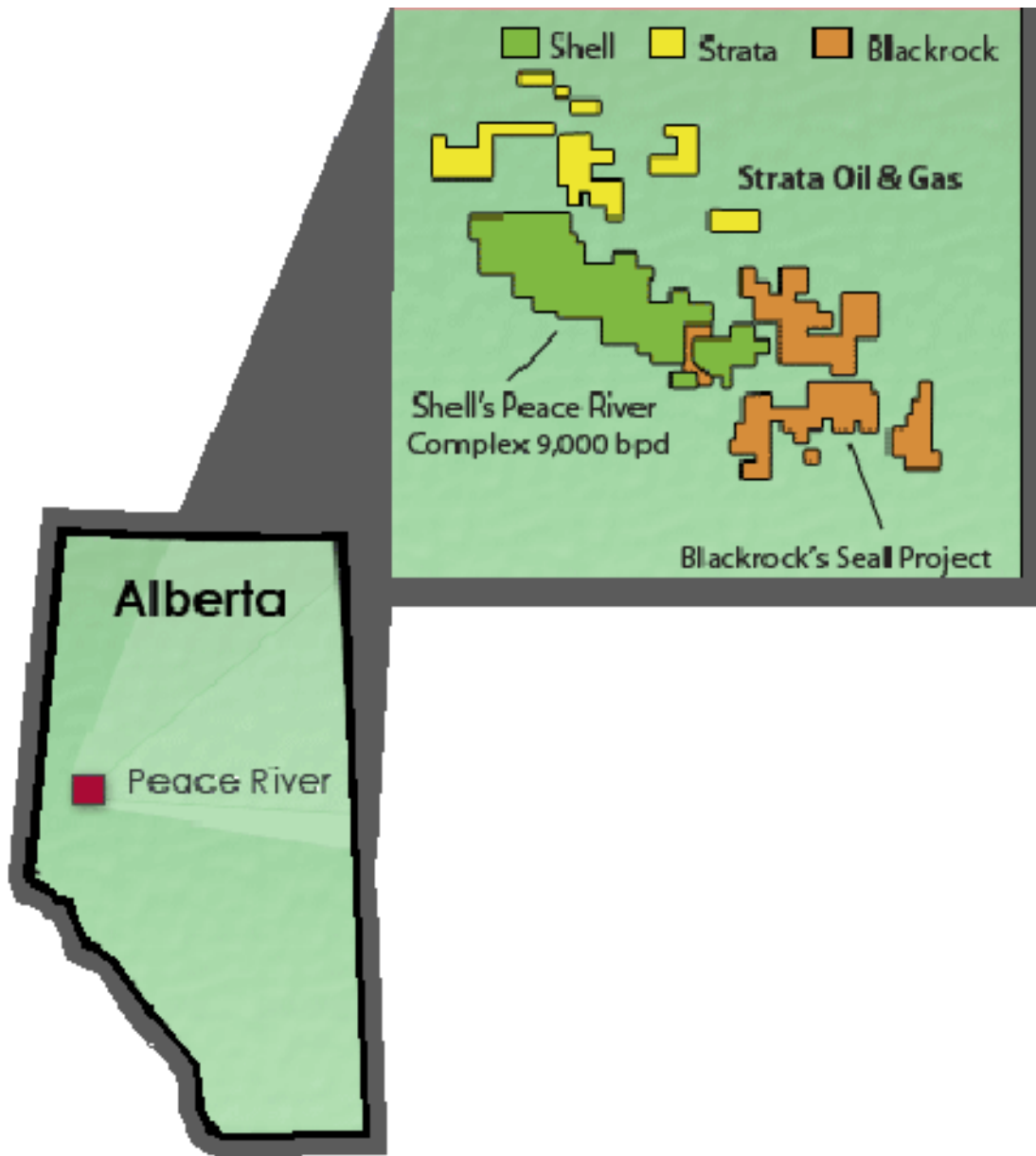
Location (Short ID)	Easting	Northing	Bluesky Formation Resource Zone		Debolt Formation Resource Zone		Elkton Formation Resource Zone	
			Thickness (m)	Grade (wt%)	Thickness (m)	Grade (wt%)	Thickness (m)	Grade (wt%)
04-11	524,555.2	6,264,360.1	0.0	N/A	7.0	4.7	4.5	1.0
16-32	531,926.2	6,252,820.4	3.9	7.7	N/A	N/A	N/A	N/A
04-05	540,616.1	6,253,452.6	0.0	N/A	N/A	N/A	N/A	N/A
16-05	541,552.2	6,254,410.7	0.0	N/A	N/A	N/A	N/A	N/A
08-07	539,917.0	6,255,495.8	0.0	N/A	N/A	N/A	N/A	N/A
06-17	541,034.0	6,256,958.4	0.0	N/A	N/A	N/A	N/A	N/A
15-19	539,822.7	6,259,205.9	0.0	N/A	N/A	N/A	N/A	N/A
10-30	539,624.1	6,260,622.2	0.0	N/A	N/A	N/A	N/A	N/A
10-26	536,431.0	6,260,698.0	0.0	N/A	N/A	N/A	N/A	N/A
11-27	534,430.5	6,260,585.9	0.0	N/A	N/A	N/A	N/A	N/A
16-09	533,700.5	6,256,257.0	0.0	N/A	N/A	N/A	N/A	N/A
14-18	529,295.9	6,257,677.1	0.0	N/A	N/A	N/A	N/A	N/A
13-13	527,314.9	6,257,849.2	0.0	N/A	N/A	N/A	N/A	N/A
06-05	529,596.4	6,263,460.7	0.0	N/A	7.0	7.6	4.0	0.0
06-18	527,957.3	6,266,711.9	0.0	N/A	12.0	1.8	3.0	0.0
06-28	531,218.3	6,269,696.7	0.0	N/A	N/A	N/A	N/A	N/A
16-27	523,730.2	6,270,579.0	5.0	9.2	5.0	1.0	3.5	0.0
12-17	519,438.2	6,266,954.2	0.0	N/A	N/A	N/A	5.0	4.7
13-18	517,812.4	6,267,358.0	0.0	N/A	N/A	N/A	7.0	8.4
16-21	492,879.5	6,268,924.5	6.1	8.3	12.0	N/A	7.0	N/A
10-18	508,767.8	6,276,628.8	4.3	7.0	10.5	5.3	N/A	N/A
06-31	518,256.6	6,271,401.7	2.8	8.0	N/A	N/A	8.0	4.0
11-08	510,208.5	6,265,321.4	4.5	6.0	13.0	10.9	7.0	9.2
10-08	521,963.2	6,255,804.3	7.4	11.2	N/A	N/A	7.5	12.5
13-01	517,719.0	6,254,394.6	0.7	7.3	N/A	N/A	N/A	N/A
10-09	513,847.1	6,255,615.2	11.7	9.2	14.0	8.4	5.0	4.3
10-17	512,139.1	6,257,399.6	2.3	8.4	N/A	N/A	N/A	N/A
08-11	507,388.9	6,255,174.0	1.0	7.7	N/A	N/A	N/A	N/A
10-02	507,158.8	6,254,001.2	11.6	9.3	N/A	N/A	N/A	N/A
01-13	499,477.8	6,256,381.4	6.7	9.9	N/A	N/A	N/A	N/A
10-34	515,237.3	6,261,955.2	0.0	0.0	13.5	10.4	7.0	9.0
16-20	512,484.2	6,259,172.3	3.0	2.0	13.0	10.1	6.0	5.9
07-29	512,171.9	6,259,892.6	1.0	2.0	13.0	10.9	6.0	6.8
06-13	518,057.7	6,256,918.3	0.0	0.0	6.0	5.4	11.0	10.9
06-15	513,321.5	6,266,588.8	1.7	2.0	13.5	11.8	7.0	7.6
06-19	508,370.7	6,268,112.2	5.0	0.0	14.0	12.8	7.5	9.2
10-24	507,031.2	6,268,588.2	1.0	3.0	9.0	6.2	N/A	N/A
10-23	505,726.7	6,268,698.6	2.0	2.0	N/A	N/A	N/A	N/A
04-03	503,155.0	6,272,774.3	0.0	0.0	9.0	10.9	6.0	9.2
01-16	502,486.2	6,275,912.7	0.0	0.0	2.0	5.8	6.5	8.3

Table A1 (cont'd)

Location (Short ID)	Easting	Northing	Bluesky Formation Resource Zone		Debolt Formation Resource Zone		Elkton Formation Resource Zone	
			Thickness (m)	Grade (wt%)	Thickness (m)	Grade (wt%)	Thickness (m)	Grade (wt%)
05-08	499,974.2	6,274,733.6	3.5	0.0	13.0	8.4	5.0	9.0
06-30	479,171.7	6,279,638.2	0.0	0.0	14.0	6.8	7.0	6.9
11-36	506,645.3	6,281,641.1	2.0	7.6	10.0	6.6	5.0	0.0
06-25	506,652.8	6,279,355.0	4.1	5.7	10.0	11.7	4.5	6.1
11-19	498,730.3	6,278,208.7	4.0	2.0	9.0	4.3	8.0	7.6
01-15	513,945.9	6,275,878.8	11.0	6.9	N/A	N/A	N/A	N/A
08-35	515,515.3	6,280,894.5	5.0	8.5	N/A	N/A	6.0	0.0
12-27	485,202.8	6,260,771.4	24.5	0.0	26.0	4.7	4.0	3.5
11-31	498,552.7	6,271,772.0	4.0	3.2	10.0	11.8	6.5	9.0
10-26	505,627.9	6,270,237.8	1.0	8.3	19.0	11.7	7.0	10.0
05-35	504,905.2	6,271,239.3	3.0	4.4	14.3	12.8	6.5	10.1
06-18	508,355.6	6,266,663.2	5.0	5.1	13.0	10.9	8.0	10.9
15-16	512,011.3	6,267,255.9	4.0	6.3	13.0	7.6	7.5	5.4
04-03	513,033.8	6,262,979.3	3.0	2.8	13.0	10.9	7.0	5.9
09-18	509,167.7	6,266,860.5	N/A	N/A	14.5	13.7	7.0	10.0
09-28	513,946.2	6,260,510.5	N/A	N/A	13.0	11.8	7.0	6.9
05-22	514,432.6	6,258,598.6	N/A	N/A	N/A	N/A	N/A	N/A
08-13	497,584.6	6,276,225.5	4.9	N/A	13.8	N/A	7.3	N/A
06-36	496,855.3	6,271,291.7	5.0	N/A	N/A	N/A	N/A	N/A
11-36	487,043.3	6,271,808.9	6.8	N/A	N/A	N/A	N/A	N/A
16-25	499,544.2	6,260,730.2	16.8	N/A	N/A	N/A	N/A	N/A
11-24	488,981.8	6,258,934.3	N/A	N/A	N/A	N/A	N/A	N/A
12-10	503,109.0	6,265,280.8	N/A	N/A	13.9	N/A	N/A	N/A
08-13	470,288.4	6,257,005.6	7.9	N/A	N/A	N/A	N/A	N/A
05-21	473,968.7	6,258,593.2	13.7	N/A	11.1	N/A	N/A	N/A
06-27	475,866.1	6,260,291.4	9.7	N/A	9.9	N/A	N/A	N/A
16-30	471,895.1	6,261,230.8	3.8	N/A	5.4	N/A	N/A	N/A
05-06	468,921.9	6,263,273.7	8.1	N/A	10.1	N/A	N/A	N/A
03-09	503,450.7	6,254,755.6	13.3	N/A	N/A	N/A	N/A	N/A

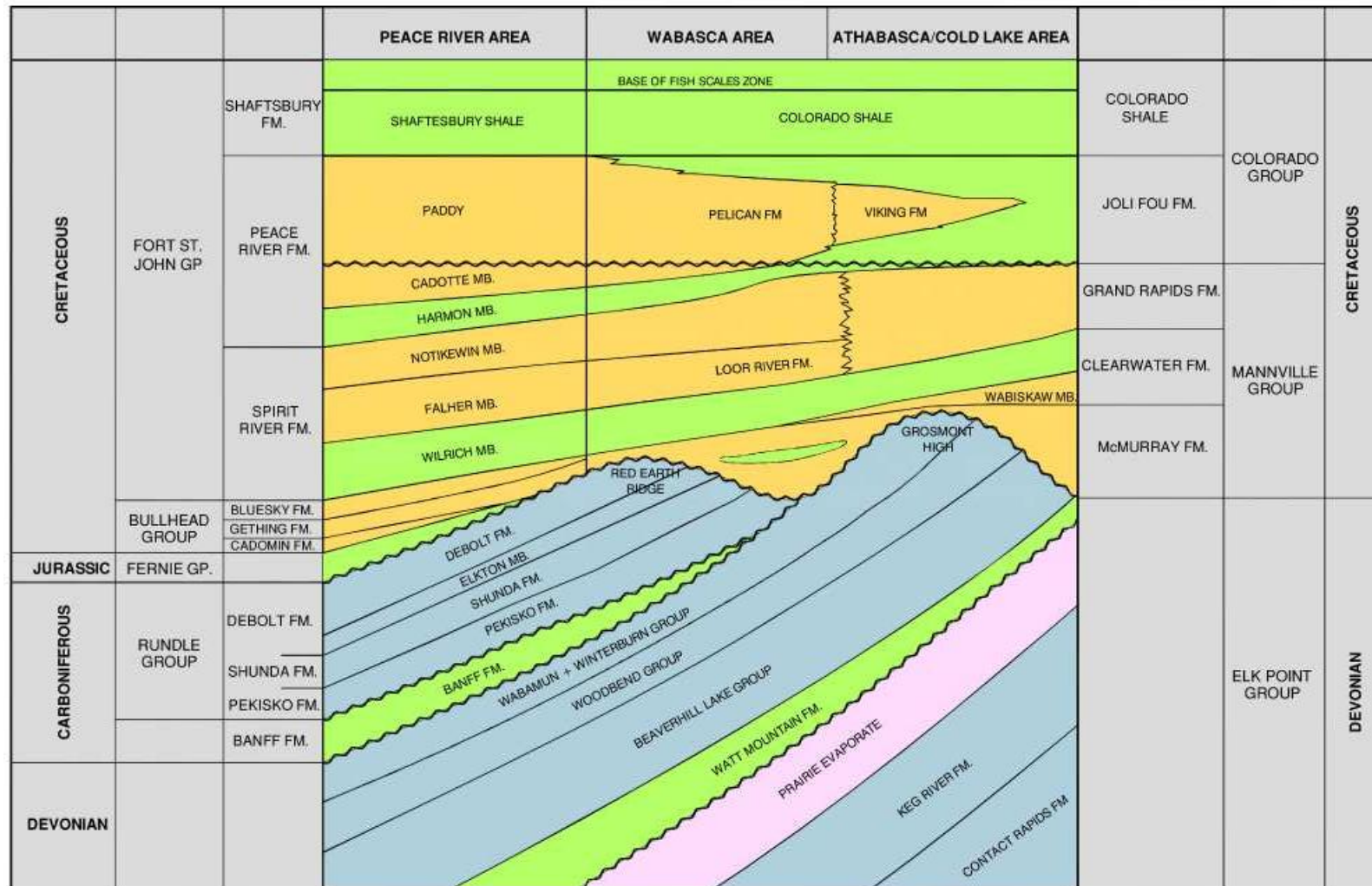


	<b>Strata Oil &amp; Gas Inc.</b>
TECHNICAL REPORT CADOTTE CENTRAL & WEST LEASES	
<b>LOCATION of the          PEACE RIVER AREA</b>	
FIGURE 1	
DRAWN BY: MLE CHK'D BY: GRJ DATE: 12 11 09	FILE: Figure 1 Peace River Area.dwg Strata_OG_C_428\428-1_Reports\... \Figures for 51-101 report Nov 2012



	<b>Strata Oil &amp; Gas Inc.</b>
TECHNICAL REPORT CADOTTE CENTRAL & WEST LEASES	
<b>LOCATION of CADOTTE AREA</b>	
FIGURE 2	
DRAWN BY: MLE CHK'D BY: GRJ DATE: 12 11 09	FILE: Figure 2 Peace River Deposits Strata_OG_C_428\428-1_(Reports)...\ \Figures for 51-101 report Nov 2012





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TECHNICAL REPORT  
CADOTTE CENTRAL & WEST LEASES

**STRATIGRAPHIC TABLE  
CADOTTE AREA**

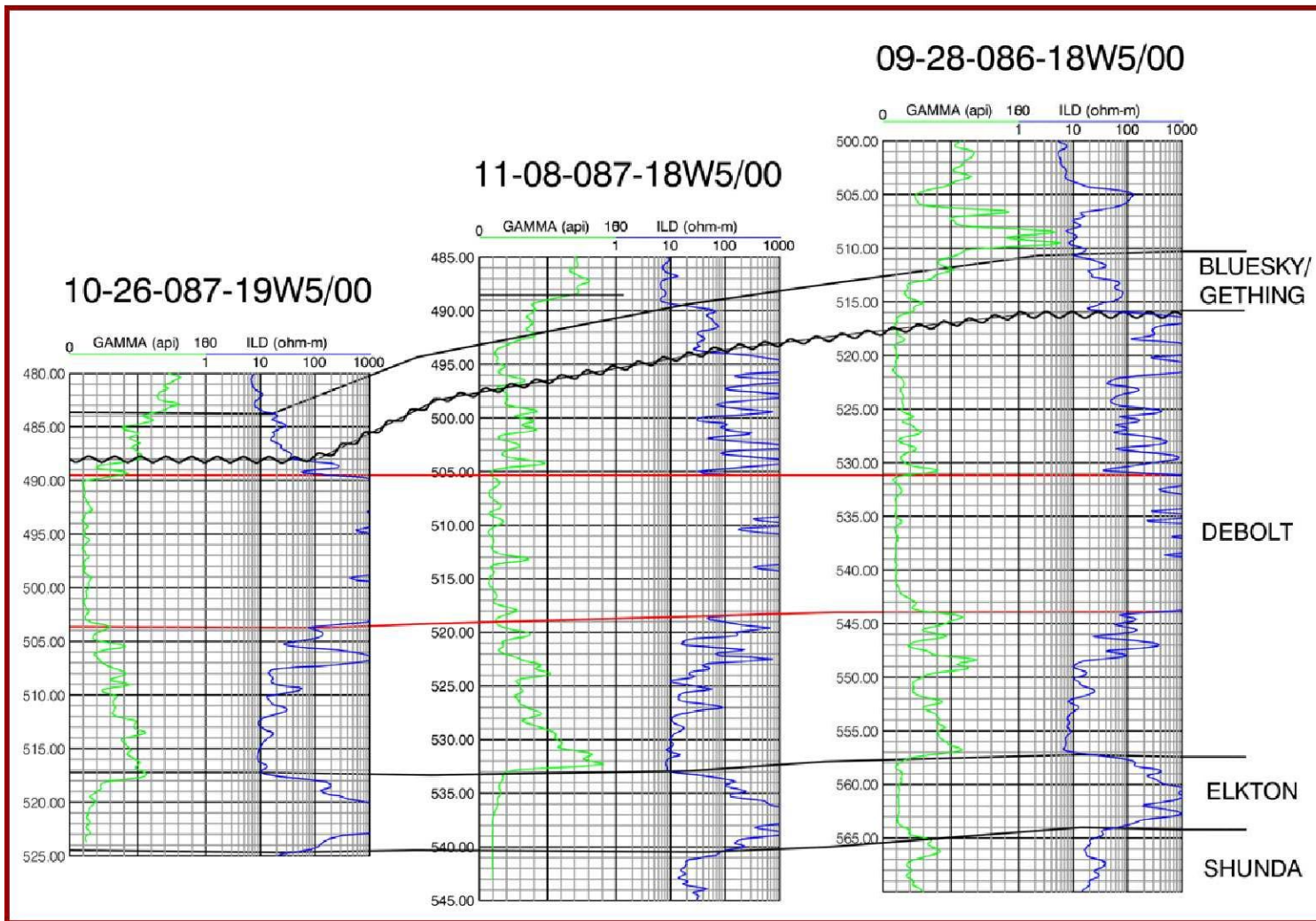
FIGURE 4

DRAWN BY: MLE  
CHK'D BY: GRJ  
DATE: 12 11 09

FILE: Figure 4 Stratigraphic Column.  
Strata\_OG\_C\_428\428-1\_Reports\...\  
Figures for 51-101 report Nov 2012







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CADOTTE CENTRAL & WEST LEASES

**CROSS SECTION  
ILLUSTRATING ORE ZONE**

FIGURE 5

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CHK'D BY: GRJ  
DATE: 12 11 09

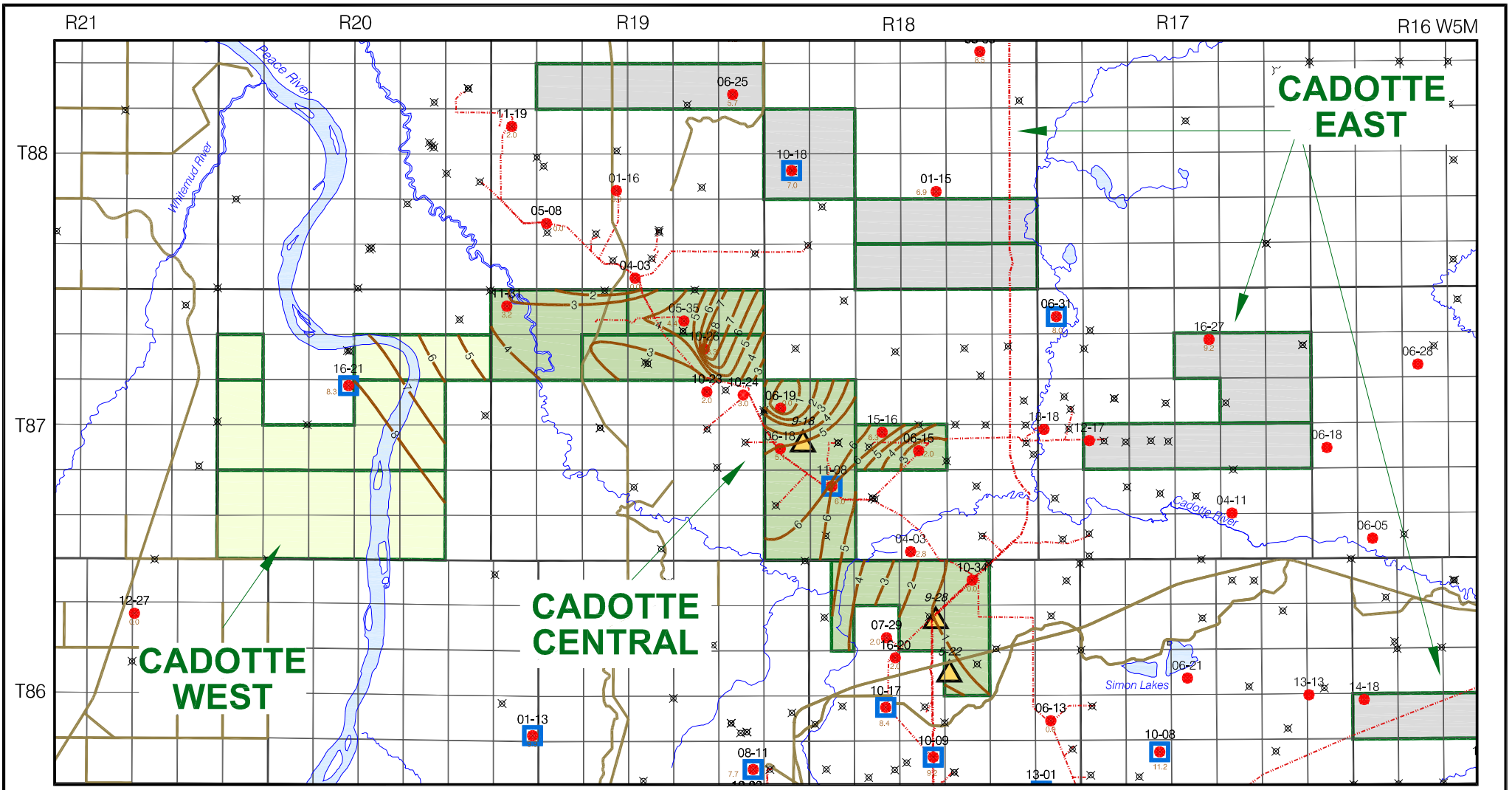
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\Figures for 51-101 report Nov 2012

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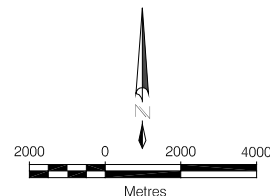






**LEGEND**

- River/Lakes
- Road
- Pipeline
- Cadotte Leases
- Cadotte Central
- Cadotte West
- Cadotte East
- Well with Core Data
- Well Used In Study
- 2007 Strata Well
- Other Well
- Contour Line (wt%)



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CADOTTE CENTRAL & WEST LEASES

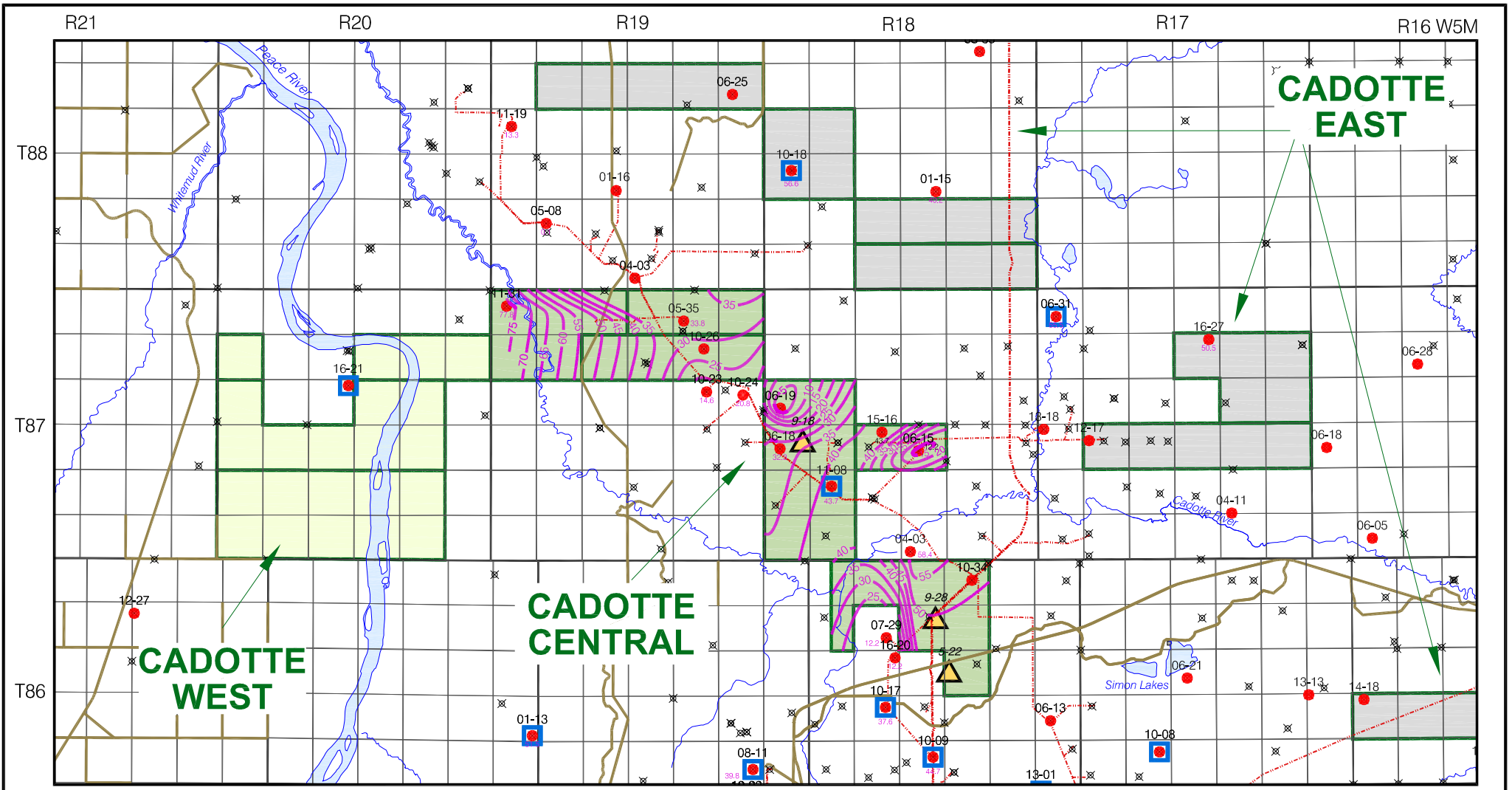
**BLUESKY / GETHING  
GRADE MAP**

FIGURE 8

DRAWN BY: MLE  
CHK'D BY: GRJ  
DATE: 12 11 09

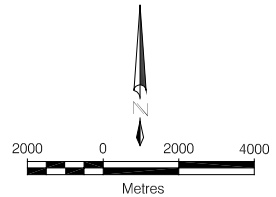
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Strata\_OG\_C\_428\428-1\_\Reports\...\  
Figures for 51-101 report Nov 2012


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**LEGEND**

-  River/Lakes
-  Road
-  Pipeline
-  Cadotte Leases
-  Cadotte Central
-  Cadotte West
-  Cadotte East
-  Well with Core Data
-  Well Used In Study
-  2007 Strata Well
-  Other Well
-  Contour Line (%)






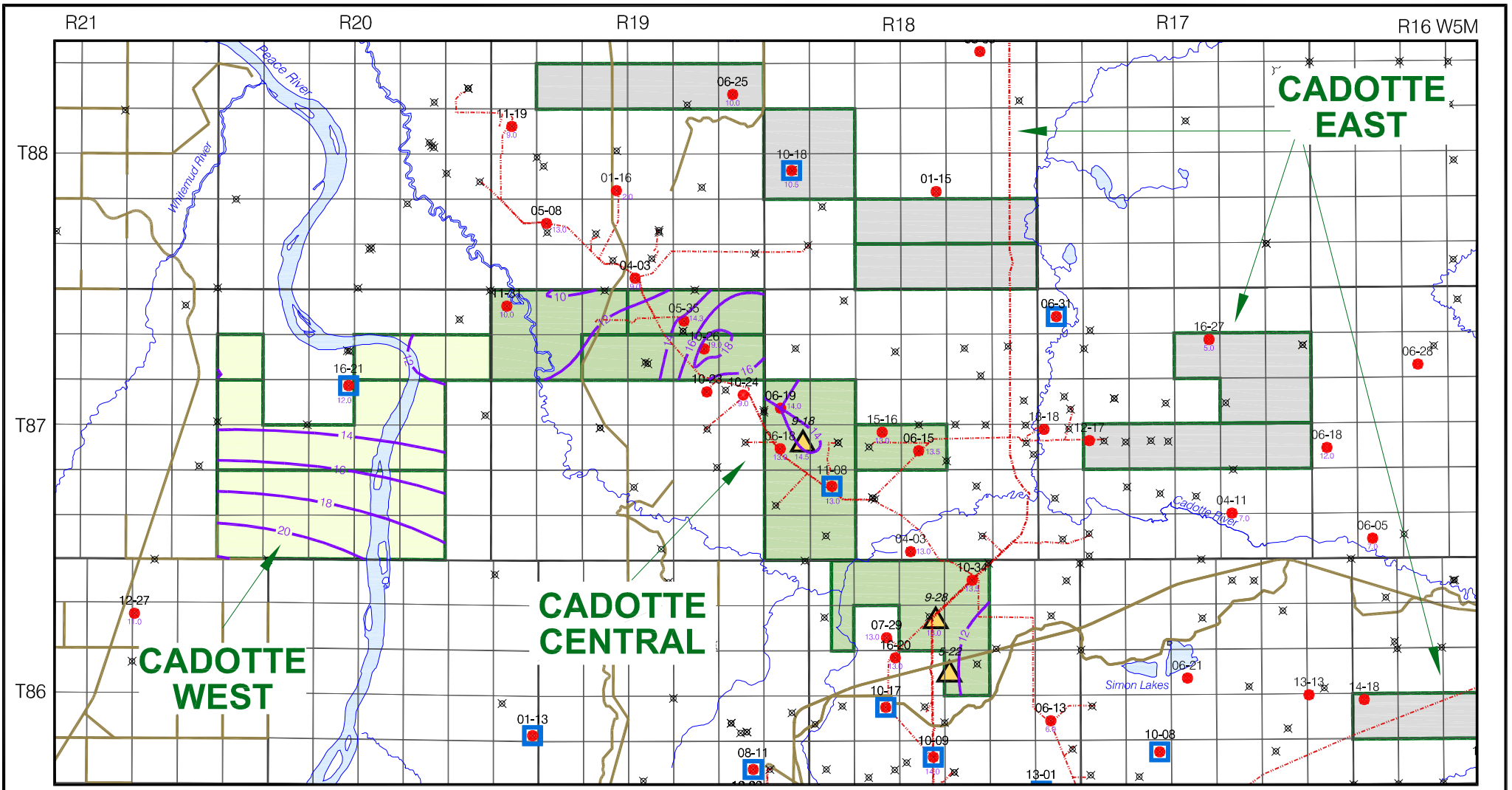
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CADOTTE CENTRAL & WEST LEASES

**BLUESKY / GETHING  
OIL SATURATION MAP**


FIGURE 9

DRAWN BY: MLE	FILE: Figure 9 B-G Oil Saturation.dwg	
CHK'D BY: GRJ	Strata_OG_C_428\428-1_\Reports\...	
DATE: 12 11 09	\Figures for 51-101 report Nov 2012	



**LEGEND**

- River/Lakes
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- Pipeline
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- Cadotte Central
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- Cadotte East
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- Well Used In Study
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- Other Well
- Contour Line (m)



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TECHNICAL REPORT  
CADOTTE CENTRAL & WEST LEASES

**DEBOLT  
ISOPACH MAP**

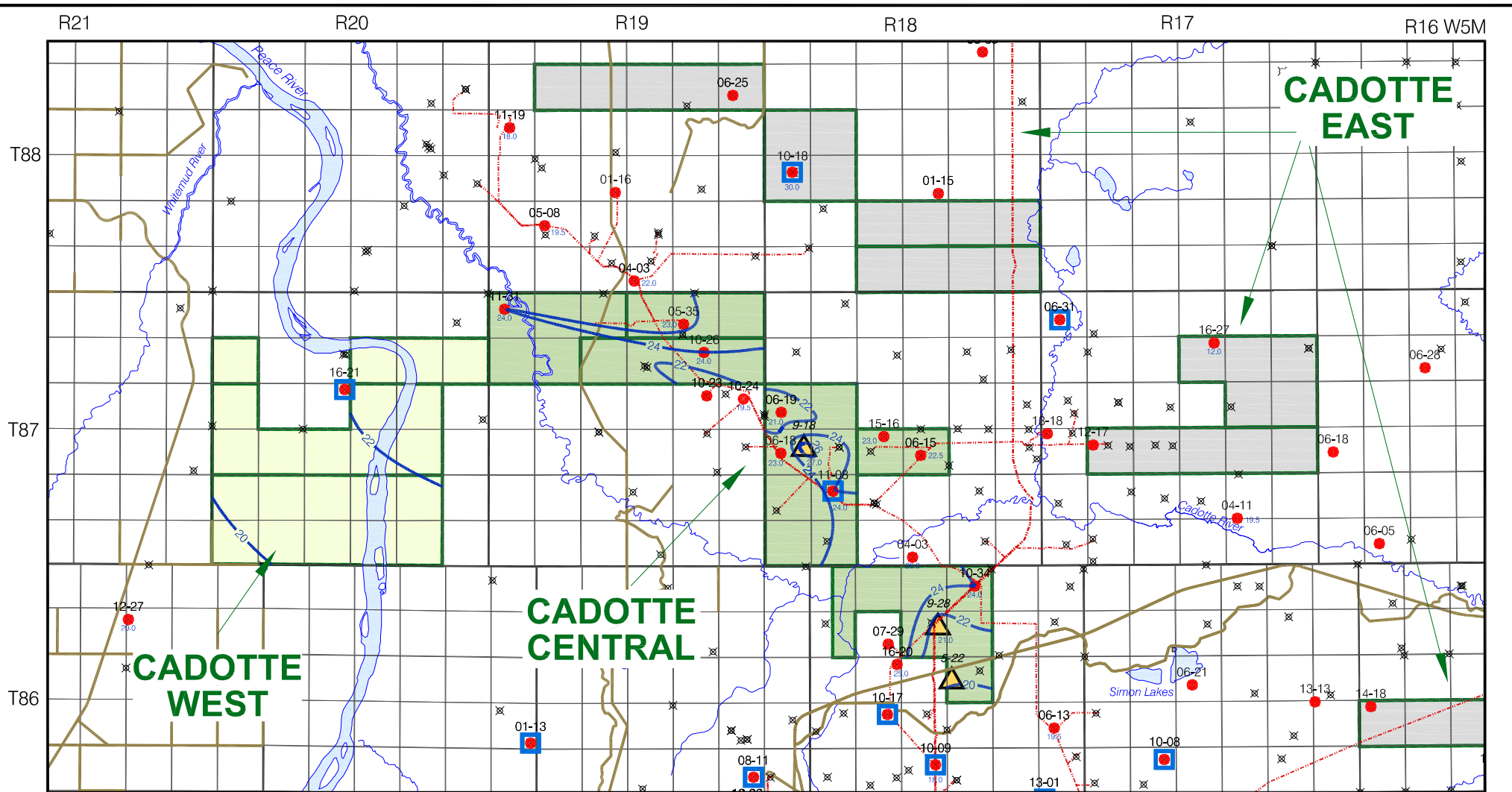
FIGURE 10

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CHK'D BY: GRJ  
DATE: 12 11 09

FILE: Figure 10 Debolt Isopach.dwg  
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**LEGEND**

- River/Lakes
- Road
- Pipeline
- Cadotte Leases
- Cadotte Central
- Cadotte West
- Cadotte East
- Well with Core Data
- Well Used In Study
- 2007 Strata Well
- Other Well
- Contour Line (%)

Strata Oil & Gas Inc.

TECHNICAL REPORT  
CADOTTE CENTRAL & WEST LEASES

DEBOLT  
POROSITY MAP

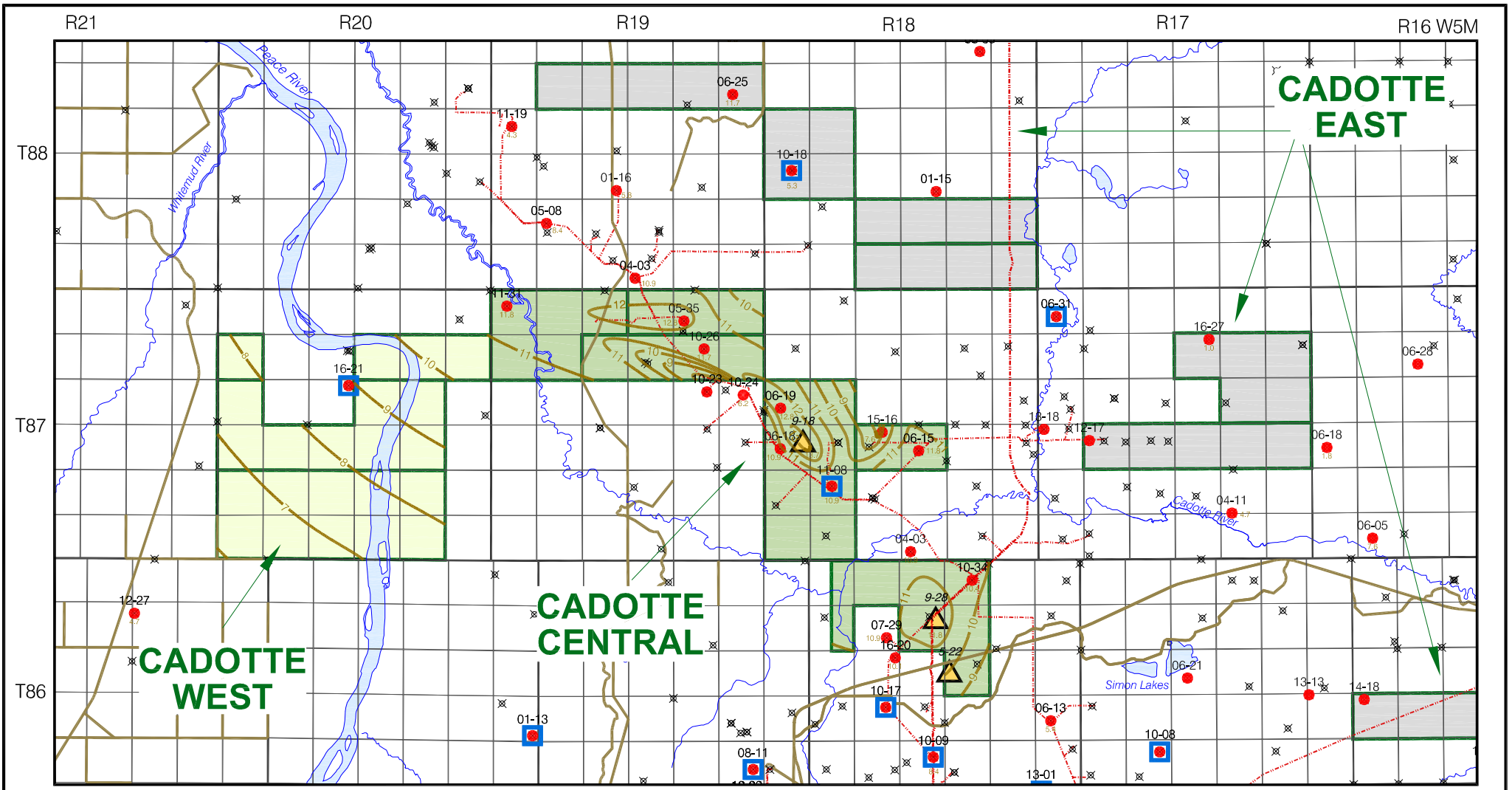
FIGURE 11

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CHK'D BY: GRJ  
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FILE: Figure 11 Debolt Porosity.dwg  
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**CADOTTE EAST**

**CADOTTE CENTRAL**

**CADOTTE WEST**

**LEGEND**

- River/Lakes
- Road
- Pipeline
- Cadotte Leases
- Cadotte Central
- Cadotte West
- Cadotte East
- Well with Core Data
- Well Used In Study
- 2007 Strata Well
- Other Well
- Contour Line (wt%)

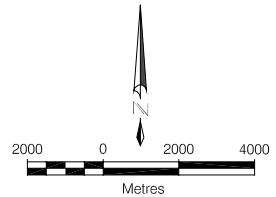


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TECHNICAL REPORT  
CADOTTE CENTRAL & WEST LEASES

**DEBOLT GRADE MAP**

FIGURE 12

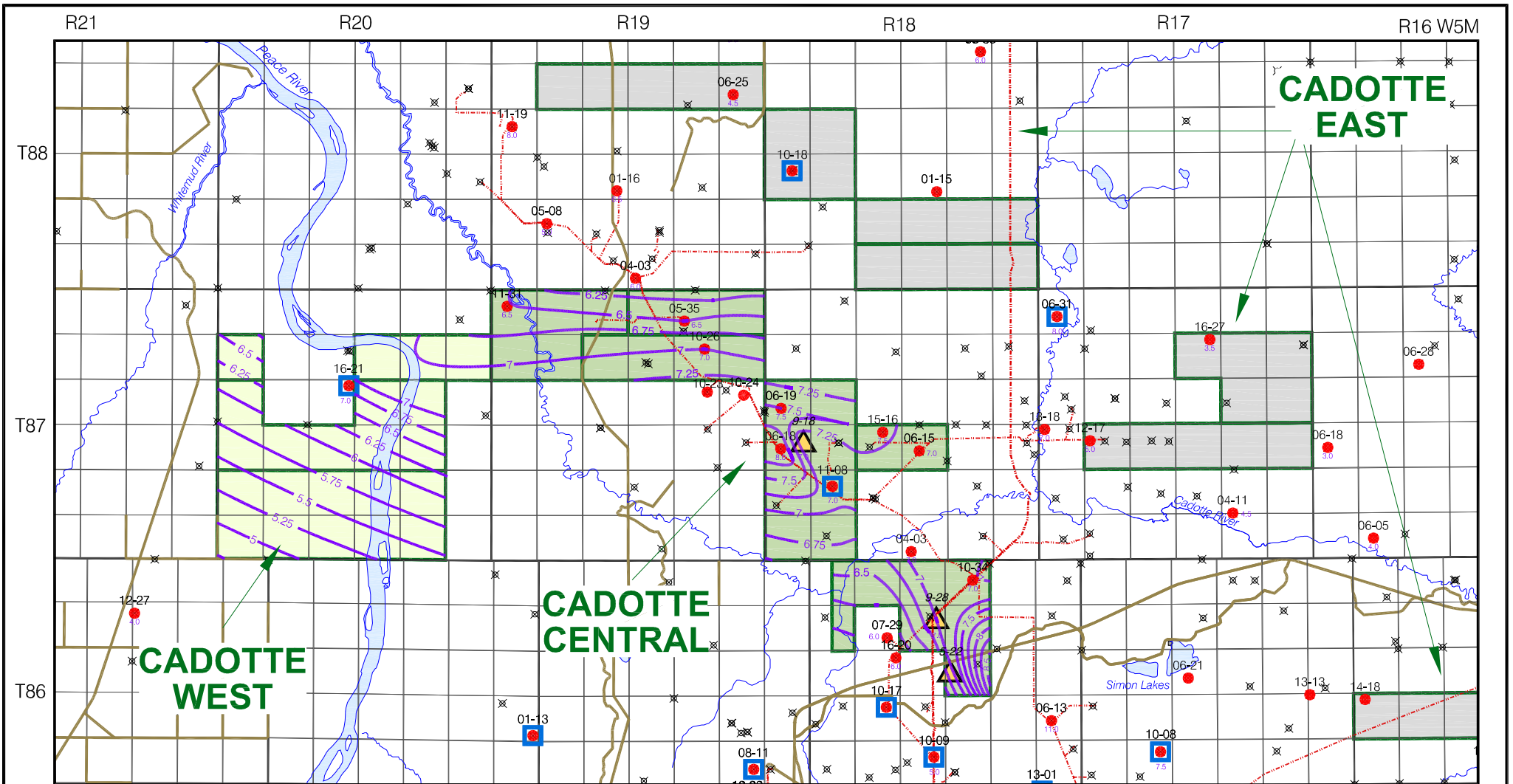


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FILE: Figure 12 Debolt Grade.dwg  
Strata\_OG\_C\_428\428-1\_Reports\...\  
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**LEGEND**

- River/Lakes
- Road
- Pipeline
- Cadotte Leases
- Cadotte Central
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- Cadotte East
- Well with Core Data
- Well Used In Study
- 2007 Strata Well
- Other Well
- Contour Line (m)

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CADOTTE CENTRAL & WEST LEASES

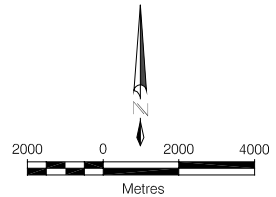
**ELKTON  
ISOPACH MAP**

FIGURE 14

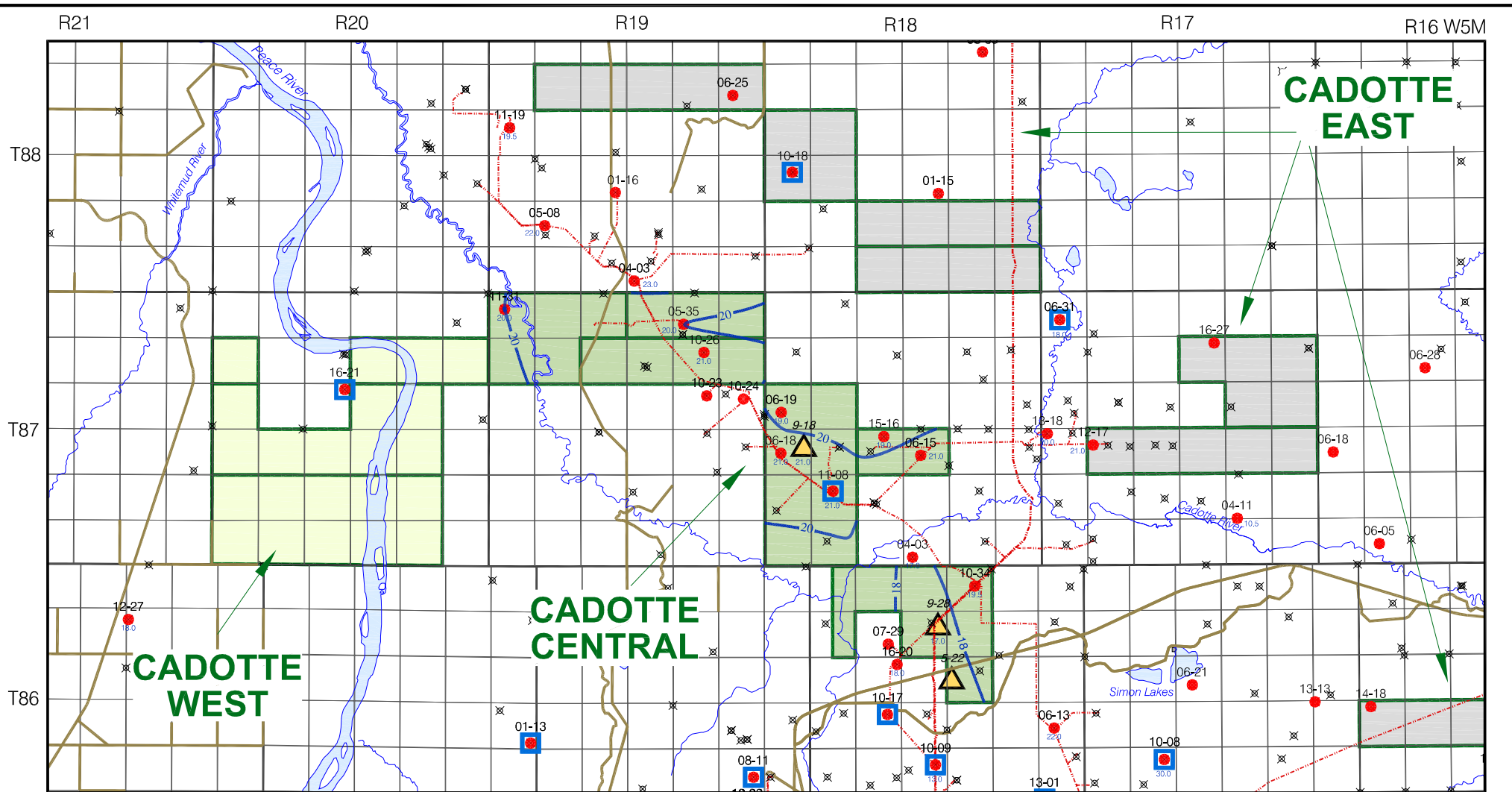
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**LEGEND**

- River/Lakes
- Road
- Pipeline
- Cadotte Leases
- Cadotte Central
- Cadotte West
- Cadotte East
- Well with Core Data
- Well Used In Study
- 2007 Strata Well
- Other Well
- Contour Line (%)

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TECHNICAL REPORT  
CADOTTE CENTRAL & WEST LEASES

**ELKTON  
POROSITY MAP**

FIGURE 15

DRAWN BY: MLE  
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DATE: 12 11 09

FILE: Figure 15 Elktion Porosity.dwg  
Strata\_OG\_C\_428\428-1\_\Reports\...\  
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